REPORT and RECOMMENDATIONS

of the Education Professional Development Committee

SEPTEMBER 2009

"Students learn when teachers learn."

NOVA SCOTIA
Education

REPORT and RECOMMENDATIONS

of the Education Professional Development Committee

Website References

Website references contained within this document are provided solely as a convenience and do not constitute an endorsement by the Department of Education of the content, policies, or products of the referenced website. The department does not control the referenced websites and is not responsible for the accuracy, legality, or content of the referenced websites or for that of subsequent links. Referenced website content may change without notice.

School boards and educators are required under the department's Public School Network Access and Use Policy to preview and evaluate sites before recommending them for student use. If an outdated or inappropriate site is found, please report it to links@EDnet.ns.ca.

Report and Recommendations of the Education Professional Development Committee

© Crown copyright, Province of Nova Scotia 2009
Prepared by the Nova Scotia Department of Education

The contents of this publication may be reproduced in part provided the intended use is for non-commercial purposes and full acknowledgment is given to the Nova Scotia Department of Education. Where this document indicates a specific copyright holder, permission to reproduce the material must be obtained directly from that copyright holder.

Cataloguing-in-Publication Data

Report and recommendations of the education professional development committee/Nova Scotia. Department of Education.

ISBN: 978-1-55457-202-1

1. Teachers, Training of—Nova Scotia 2. Teachers' workshops—Nova Scotia I. Nova Scotia. Department of Education.

370.7 – dc22

On behalf of the members of the Education Professional Development Committee, we are pleased to submit our report to the Deputy Minister of Education and the Education Consultative Forum.

Educators throughout Nova Scotia have introduced excellent initiatives that promise to create a better future for our students but we need to go deeper and get to the heart of instruction in a more intensive and comprehensive way. We need to work together at all levels to create a school system where students are achieving at high levels and teachers are participating in powerful and sustained learning that is helpful in meeting the day-to-day challenges of the classroom.

The research is remarkably clear. We need to focus deeply on the quality of instruction and creating authentic collaborative cultures in our schools. We need to ensure that principals have the knowledge, skills, and time to be instructional leaders and to provide effective school-based support for teachers.

As leaders of the education system in Nova Scotia, we have an opportunity to focus the system's energies and resources to make a meaningful impact on student learning. There are four areas of recommendation that are interconnected and provide a clear direction based on the Committee's study of effective practices. Implementing these recommendations requires a significant cultural shift in the way we think about our work and the way we prioritize our daily activities.

The members of the Education Professional Development Committee wish to thank the Deputy Minister and the Education Consultative Forum for the opportunity to advance student learning in Nova Scotia.

Lawrence Ryan
Co-Chair

Shannon Delbridge
Co-Chair

Education Professional Development Committee Membership

Shannon Delbridge (co-chair)
Director of Corporate Policy
Department of Education

Lawrence Ryan (co-chair)
Coordinator of School Accreditation and Leadership Development
Chignecto-Central Regional School Board

Ron Brunton
Executive Staff Officer
Nova Scotia Teachers Union

Gary Clarke
Director of Education Services
Chignecto-Central Regional School Board

Trevor Cunningham
Coordinator of Monitoring and Evaluation
Tri-County Regional School Board

Norm Dray
Superintendent of Schools
Annapolis Valley Regional School Board

Shelley Hersey
Teacher, Saint Agnes Junior High School
Halifax Regional School Board

Michael Jeffrey
Director of Learning Resources and Technology Services
Department of Education

Donna Karsten
Math Consultant, English Program Services
Department of Education

Mitch Landry
School Accreditation Coordinator, Regional Education Office
Department of Education

Sue LeBel
Coordinator of Programs
Annapolis Valley Regional School Board

Cameron MacQuarrie
Principal, Cape Breton Highlands Education Centre/ Academy and Pleasant Bay School
Strait Regional School Board

Lyn McInnis
Teacher, Bras d'Or Elementary School
Cape Breton-Victoria Regional School Board

Jeff Orr
Director, School of Education
St. Francis Xavier University

Tony Stewart
Executive Co-Director
Nova Scotia Educational Leadership Consortium

Heather Syms
Facilitator of Curriculum Implementation
Halifax Regional School Board

Joyce Vienot-Gates
Principal, West Northfield Elementary School
South Shore Regional School Board

Contents

Introduction 1
- Rationale and Process for Review 1
- The Classroom Sessions 3
- Setting the Stage 4
- Building on Promising Directions to a More Successful Future 5

Lessons from Around the World 7

The Research Consensus 9

Standards of Practice 13
- Context Standards 13
- Process Standards 14
- Content Standards 14

The Nova Scotia Context 15
- Effective Practices in Nova Scotia 15
- What Made These Nova Scotia Innovations Successful? 18
- What Have We Learned from Our PLC–NLC Cohort Schools? 19

Directions for Professional Learning in Nova Scotia 21
- Belief Statements 21
- The Recommended Vision for Professional Learning in Nova Scotia Schools 22
- What Does Effective Professional Learning Look Like? 23
- What Does Professional Learning Look Like in Nova Scotia? 24
- Operationalizing the Standards of Practice in Nova Scotia 27

Recommendations 39
- Theme 1: Leadership for Effective Instruction and Student Learning 42
- Theme 2: School-Based Goal Setting and Professional Learning 43
- Theme 3: Provincial Collaboration for Curriculum and Program Coherence 45
- Theme 4: Assessment for Meaningful Professional and Student Learning 46
- Recommendations Related to Implementation 47

Appendices 49
- Appendix A
  Special Joint Session on Teacher Professional Development of the Education Consultative Forum and the Education Programs Committee: Summary of Feedback, February 2006 51
- Appendix B
  The Classroom Sessions Report 57

References 75

Introduction

Rationale and Process for Review

Over the past number of years, Nova Scotia educators in schools, boards, the Department of Education, and universities have been developing and implementing promising new practices that are shifting staff development to a more collaborative model that is based on school and student learning needs.

The need to improve student achievement, the importance of more school-based instructional support, and the critical role of the teacher in student success have been the focus of recent education roundtables, partner forums, and leadership conferences. The Nova Scotia educational community has put out a resounding call for action to rethink our collective priorities with regard to teacher professional learning.

In December 2005, to assist in planning for the upcoming principals' meeting, *Principals-in-Focus*, a focus group of 25 principals, representing both elementary and secondary levels and all regions of the province, came together in Truro to discuss priority issues affecting schools and principals in their roles as instructional leaders. This representative group of principals identified their number one concern as the pressing need to examine the current model of professional learning. They stressed the need to better align and differentiate professional learning activities to address school needs, to improve the integration of curriculum initiatives, and to provide more job-embedded opportunities for teachers to discuss student outcomes and work collaboratively to improve their practices.

This clear message from principals resonated strongly with superintendents as they reflected on previous discussions about the approach to professional development in Nova Scotia. In response, the Deputy Minister and superintendents, through their Education Consultative Forum (ECF), initiated a process to examine teacher professional development in Nova Scotia. This process was launched following a special meeting with system leaders from the department and board levels where they discussed the issues, systemic needs, and barriers associated with providing effective teacher professional development. Research was then undertaken by an advisory panel to determine best practices in professional learning, and a cohort of schools across the province was brought together to pilot some of these ideas and practices in Nova Scotia.

These are always the conditions that bring out our best—we're focused on something we really care about; we work intensely together, inventing solutions as needed, we take all kinds of risks; we communicate constantly.

~ Margaret Wheatley

Deep learning and understanding by students cannot be achieved without deep learning and understanding by teachers.

~ Dennis Sparks
during EPDC Session,
October 3, 2007

In education we operate on an old factory model where there is a pervasive belief that if you aren't teaching, you are wasting time. This model doesn't allow time for reflection. The assumption is that if you are thinking, you are losing productivity; down time is lost time.

~ Patrick Dolan
during EPDC Session,
October 25, 2007

Based on this research and considerable dialogue, the ECF recommended adoption of the professional learning community philosophy and practices in Nova Scotia at all three levels—the department, the school boards, and in schools. In the spring of 2007, the ECF established a tri-level partnership committee to define a Nova Scotia model for professional learning based on this research and these effective practices. The committee was assigned the responsibility of recommending strategies, processes, and supports to ensure that the public education system has the necessary capacity, congruency, and resources to sustain effective and networked professional learning that enhances student learning.

To ensure a range of expertise and perspectives, and adhering to the principle of co-construction, the membership of the Education Professional Development Committee (EPDC) includes teachers, principals, school accreditation co-ordinators, board-based consultants and directors, department-based consultants and directors, and representatives from the superintendents, a pre-service teacher education institution, the Nova Scotia Teachers Union, and the Nova Scotia Educational Leadership Consortium. This committee was also inclusive of educators from all regions of the province. The EPDC was co-chaired by the department and school board representatives.

The EPDC was very fortunate to have had the opportunity to consult with and learn from two leading experts in professional learning and change strategies in education, Dr. Dennis Sparks and Dr. Patrick Dolan. Dr. Sparks served as Executive Director of the National Staff Development Council from 1984 to 2007, and is recognized as an international leader in staff development. He has authored significant works contributing to the knowledge and understanding of effective practices for professional learning, including his most recent book, *Leading for Results: Transforming Teaching, Learning, and Relationships in Schools* (2007). Dr. Dolan is an organizational development expert working with teachers' unions and school districts across Canada and the United States to achieve improved conditions for teaching and learning in schools. A critical element in Dr. Dolan's model of effective change is a strong partnership among governments at the state/provincial level, school boards, and the membership of teachers' unions. He emphasizes the importance of having a collaborative model of leadership in place that promotes shared decision making, trust, information sharing, and site-based control at the school level that is situated within educational standards that are collectively agreed upon. Both of these external consultants read the draft report of the EPDC at various stages and met with the committee to offer advice and direction.

The Classroom Sessions

In January and February 2008, the Nova Scotia Educational Leadership Consortium, on behalf of the EPDC, conducted the Classroom Sessions, a series of focus groups across the province to probe the challenges involved with education today and the possibilities of improving student achievement and enriching the classroom experience in Nova Scotia.

The emerging interest in professional learning communities (PLCs) was highlighted as a critical process for teacher collaboration, designed specifically to enhance instruction and the quality of education for each student. Participants discussed ways to foster PLCs within the Nova Scotia school system, recognizing that the quality of learning and teaching can be enhanced by teachers working and learning together. An information package was also provided to participants prior to the focus groups. Participants included teachers, teacher leaders, principals, school board consultants/co-ordinators, parents, community members, representatives of the Nova Scotia Teachers' Union, school advisory council members, and students.

The participants in the Classroom Sessions believe that the classroom of today is very different from the classroom of yesterday. However, it was unanimously agreed that, although there have been many changes over time, the teacher has always been and will continue to be the single most important factor in ensuring the quality of education in the classroom. Simply put, effective teachers have a positive impact on student learning, while ineffective teachers have a negative impact.

To advance effective teaching and make certain that all teachers reach their full potential, quality ongoing professional learning opportunities are required. Most participants felt that recent initiatives in professional development were a move in the right direction and were having a positive impact on their own professional learning. Mentors and coaches, lead teachers and lead teams, cohorts, curriculum consultants, and modelling were often mentioned as effective forms of professional development. However, to ensure the continued evolution of effective professional development and overcome the difficulties they are currently facing, participants clearly identified the need for additional time to address the following essential elements of quality professional learning:

- meaningful on-site professional development
- differentiated professional development
- increased opportunities for collaboration and reflection
- multi-level site-based support from curriculum leaders, local school boards, and the Department of Education
- effective educational leadership from school administrators
- increased communication and collaboration with universities offering Bachelor of Education degrees
- clear two-way communication between schools and parents

Good teaching made the difference—it always did and it always will.

~ Classroom Sessions Participant

Speaking from a student's perspective, I believe that PLCs have the potential to enhance and enrich the classroom experience exponentially.

~ Classroom Sessions Participant

If we do not have effective teachers in our classrooms then the delivery of a quality education cannot be guaranteed.

~ Classroom Sessions Participant

Many participants recognized accreditation as a positive step in working toward school improvement and professional learning. Although time consuming and extremely demanding, accreditation was seen as a school-based process that gives teachers a sense of ownership and focus. This ownership empowers school staff to work together in making data-driven decisions to improve their own learning environment. By reaffirming what schools do well and opening up new levels of professional discussion, accreditation supports, encourages, and promotes effective professional learning.

Participants were unanimous in their support of professional learning communities as an effective approach to professional development. As a culture and a process, PLCs were seen to be an effective means of achieving the essential elements of quality professional learning. Teachers believe by working as part of a supportive, collaborative, and focussed learning community, they will be able to continually improve their own instructional practices and thus enhance student achievement. They see PLCs as strengthening not only their own effectiveness, but also the collective effectiveness of the profession.

The Classroom Sessions revealed that each of the eight provincial school boards has different requirements surrounding professional development. While each board has its own set of specific challenges, the Conseil scolaire acadien provincial (CSAP) faces a number of unique linguistic and geographical challenges that must be recognized. As a result of the unique needs of each school board, just as differentiated professional learning is an essential element of effective professional development, differentiated approaches and solutions are essential when providing support to individual boards.

Setting the Stage

Drawing extensively upon the research into effective professional learning practices, their own professional experiences, and consultation and dialogue with key stakeholders in the education system and leading experts in staff development, the EPDC has prepared recommendations for change in Nova Scotia. The report and recommendations from the EPDC provides a framework and recommendations under four critical themes to respond to this call for action in a meaningful and authentic way related to curriculum coherence, effective leadership, meaningful on-site professional learning, and ongoing assessment.

The EPDC learned very early in its research that at the core of effective professional development is "a professional learning team whose members accept a collective responsibility for the academic achievement of all students ... This professional development will not only affect the knowledge, attitudes of individual teachers, administration, and other school employees but will also alter the cultures and structures of those organizations in which those individuals work" (Sparks and Hirsch 1997). This focus on professional learning means that teachers work in teams and meet regularly to learn, plan, and support one another, using student and school data for the purposes of continuous school and instructional improvement.

This 'learning teams' approach to professional development is evident in such practices as lesson study, peer coaching, mentoring, and school networking, which are part of a global trend in effective professional staff development. Successful educational systems have recognized that professional development that is focussed and driven by the needs of teachers, within the context of school-based priorities that aim to ensure that all students are learning, has yielded dramatic and exciting increases in student achievement (Goodman and Zimmerman 2000; MacIver and Farley 2003).

In Nova Scotia, there are several professional initiatives under way, such as school accreditation, instructional coaching, lesson study, and literacy, math, and technology mentoring that are consistent with the effective practices evident in successful systems. Another successful initiative is the partnership between school boards and universities to focus on leadership development through graduate-level cohorts that situate the needs of particular school systems beside the learning inherent in graduate courses, enabling the development of professional and networked learning communities.

This report and its recommendations recognize the effectiveness of these promising initiatives and encourage the province to further support and broaden such practices as school accreditation, coaching/mentoring, and leadership development.

Building on Promising Directions to a More Successful Future

This report concludes that continuing to nurture a learning communities approach to professional development is the most promising direction for the Nova Scotia education system to have an impact on instruction and student learning. The school accreditation model in Nova Scotia is helping to shape learning communities in our schools that support a clearly articulated and well-understood set of student learning outcomes, an effective means of measuring what students have and have not learned, and having teachers implement instructional improvement strategies to address areas where students have not achieved the learning outcomes.

When teams are truly learning, not only are they producing extraordinary results, but the individual members are growing more rapidly than could have occurred otherwise.

~ Peter Senge

The Nova Scotia school accreditation program is really professional learning communities in action.

~ PLC–NLC cohort principal

A learning community in action means that

> *PLCs can be school-based, district based, cross-district or national [provincial]; the membership in a particular PLC is determined by its focus. For example, a grade-level team of teachers may form a PLC to focus on improving their ability to coordinate their students' curriculum; a multigrade group of teachers may collaborate on ways to ensure a coherent learning pathway for their students; a group of math teachers may work together to adopt and implement a new mathematics program in ways that best benefit their students; teachers and administrators may meet as a PLC to learn and support innovative teaching strategies; principals or superintendents may concentrate on more effective ways to handle the particular challenges of their roles; a school system may meet regularly with core district representatives to improve operational effectiveness and to build capacity to support school and district efforts to improve schools; groups may form across districts, often as part of a national school reform initiative, to focus on common issues in their work.*
>
> *(Annenberg Institute 2003, as quoted in the InPraxis Group Inc. report,* Summary of Professional Learning Communities: An Exploration.*)*

This professional learning communities approach is characterized by a learning culture in which all partners think and act collaboratively. This cultural shift involves teachers, principals, board staff, and other education partners engaging in professional dialogue and focussed action around the development of shared knowledge and understanding of the curriculum that is necessary to improve instruction and assessment practices to enhance student learning. Teachers who are working as part of professional learning communities are supported as they reflect, study data, observe each other teach, and share with colleagues as a regular part of their ongoing practice to collectively enhance student achievement.

The learning communities approach promotes and facilitates job-embedded teacher collaboration and individual learning and assists teachers in changing their instructional practices and focussing their professional learning in ways that are likely to increase student learning. The more that activities and structures of the Department of Education and Nova Scotia school boards are aligned to facilitate school capacity building, the more timely and relevant the professional support for teachers and school administrators. The deliberations of the EPDC have helped to confirm that Nova Scotia student achievement can be continually enhanced through a sustained commitment to curriculum alignment, teacher collaboration, instructional improvement, and essential program and school accreditation processes.

Lessons From Around The World

A major study, referred to as the McKinsey Report (Barber and Mourshed 2007), commissioned by the Organization for Economic Cooperation and Development (OECD), revealed some common characteristics of the most consistently successful school systems. The study sought to understand why some of the world's educational systems perform significantly better than most others and why some reforms succeed, when most others fail. More than two dozen school systems in Asia, Europe, North America, and the Middle East were identified as best performers as determined by examining the results of the OECD Programme for International Student Assessment (PISA) and through a comprehensive survey of the current literature and interviews with over 100 educational experts.

This study concluded that the main driver of the variation in student achievement was the quality of teachers. Top-performing systems did three things well, causing them to outperform all other OECD educational systems in terms of student achievement.

The McKinsey Report revealed that these outstanding school systems focus on top-quality instruction by

1. **Getting the right people to become teachers** (by using policy interventions to attract strong candidates into the teaching profession, ensuring that teaching is viewed as a high status profession and making entry into teacher training highly selective, and by employing effective recruitment and selection processes)
2. **Developing those who are selected as teachers into highly effective instructors** (by stressing practical skill development during initial training, placing coaches in schools to support teachers, enabling teachers to learn from each other, carefully selecting and developing effective instructional leaders, and focussing principals' time on instructional leadership)
3. **Putting in place systems and targeted support to ensure that every child is able to benefit from the excellent instruction of teachers** (by setting high expectations for students, monitoring and supporting at the level of schools, and monitoring and supporting at the level of students)

These effective systems also demonstrated that substantial improvements in outcomes are possible in a short period of time.

The quality of an education system cannot exceed the quality of its teachers. The only way to improve outcomes is to improve instruction.

~ McKinsey Report

Public education stands at a point where it can enter the best of times even though to some it might appear that we are in the worst of times. I am highly optimistic about the guidance provided from 35 years of research. Following that guidance would be exceedingly wise; ignoring it would be exceedingly foolish.

~ Robert Marzano

An additional outcome of the McKinsey Report is a better understanding of the relative impact of class size reduction strategies on student achievement. Class size reduction is probably the most widely supported and extensively funded policy aimed at improving schools among OECD countries, including the province of Nova Scotia. The study states conclusively that differences in teacher quality, and not class size reduction, were the main determinant of differences in student learning. Every single one of the studies reported in this meta-analysis showed that within the typical range of class sizes, variations in teacher quality completely dominated any effect of reduced class size. Variations in teacher quality also dominated any effect of socio-economic factors on student achievement. These research findings provide an opportunity to question if class size may be too simplistic a policy strategy for addressing school improvement without ensuring that there are concomitant initiatives focussing directly on improving teaching practices.

The McKinsey Report can be situated beside the strong body of research by such researchers as Marzano (2003) and Marzano, Pickering, and Pollock (2001) that identifies effective practices that significantly affect student achievement. The EPDC has concluded that this body of research can assist the Nova Scotia school system to inform decision making when planning professional learning.

The Research Consensus

Since the early 1990s, there has been a growing consensus about the characteristics of high-quality professional development (Bull et al. 1994; Corcoran 1995; Darling-Hammond and Sykes 1999; Fullan 1995; Guskey 2000; Hawley and Valli 1999; Kennedy 1998; Killion 1999; Little 1993; Wilson and Berne 1999). These researchers agree that high-quality professional development challenges participants' current thinking, adds to their skills and knowledge, leads to improvements in their practice, and enhances their contribution to their schools (Corcoran 1995). Most importantly, high-quality professional development also leads to higher levels of student achievement.

Provincial and local professional development programs and practices tend to make distinctions between professional development and job responsibilities. Fullan (1995) observed that the effectiveness of professional development has been severely limited by treating it as a discrete entity outside the regular job. Professional development opportunities that allow job-embedded experimentation, reflection, and discussion built into the school day, have been shown to be more meaningful and effective (Corcoran 1995; Lieberman 1996; Little 1993; Murphy and Lick 1998; Sparks and Hirsch 1997).

Job-embedded professional development refers to the learning that educators engage in together (Bull et al. 1994; Fullan 1995; Lieberman and Grolnick 1996; Little 1993). More specifically, job-embedded professional learning focusses on the potential benefits of activities such as peer observation, discussion groups, collaborative lesson planning, joint work on school improvement committees, mentoring, and networking related to subject matter and pedagogy. As teachers and principals engage in these activities, they become members of school-based professional communities in which members learn from one another and clarify values, desired outcomes and shared commitment (Kruse, Seashore, and Bryk 1994; McLaughlin 1993; Murphy and Lick 1998). According to McLaughlin (1993), "Teachers' professional development of the most meaningful sort takes place not in a workshop or in discrete, bounded convocations, but in the context of professional communities—discourse communities, learning communities."

One-event workshop activities continue to be a staple in the learning opportunities available to teachers and principals because a new model has not yet been fully accepted by education policy makers (Brown and Moffett 1999). Workshops and other traditional staples of professional development are ineffective, not because of their content, but because they are typically organized as discrete events, which are usually based on learning out of context and provide no further follow-up, support, and assistance (Kennedy 1998).

The solution is that "professional development must be re-conceptualized as continuous learning" (Fullan 1995). In this view of professional development, the workshop or other one-time event is replaced by a more coherent and contextually meaningful and relevant learning process that sustains, reinforces, and deepens learning in ways that are appropriate for every teacher's school context.

Spending more money on existing professional development activities, as most are presently designed, is unlikely to have a significant effect on either the knowledge and skill of educators or on the performance of students.

~ Richard Elmore

Improvements in teaching and learning can occur much more quickly than many educators expect.

~ Bruce Joyce

Consistent with what is known about how adults and children learn, this perspective assumes that learning is an ongoing process of reflection, experimentation, and discussion that requires more than a single event to learn complex new skills and ideas. Sustained professional development provides a context in which learning can have a lasting impact upon professional practices in schools. Teacher learning that aims to master complex ideas and skills requires continuous learning and long-term support (Corcoran 1995; Darling-Hammond 1999; Guskey 2000; Harkreader and Weathersby 1998).

The research on professional development builds upon effective schools research that demonstrates that schools that have guaranteed, viable, and rigorous curriculum and effective assessment processes in place can have profound effects on achievement for all students. Effective schools work hard to provide a guaranteed curriculum focussed on outcomes and a viable curriculum that can be learned in the allocated time, to provide students with challenging goals and effective and timely feedback, and to embed structures for collegiality and professional learning for teachers and paraprofessional staff (Marzano 2003).

Effective teachers have been shown to have an even greater impact on student learning than the school-level factors described above in Marzano's meta-analysis. Teachers who continually learn about differentiated instruction and intentional and seamless classroom management techniques, and who use appropriate and effective instructional strategies, can affect student achievement by more than 30 to 54 percentage points (Marzano 2003). When both school-level factors and teacher-level factors are combined, the impact on student achievement is enormous (Miller 2003).

Ten years ago, original research based on data from Tennessee showed that if two eight-year-old students of average ability were given different teachers—one of them a highly effective teacher, the other a teacher with less effective skills—the students' performance diverged by more than 50 percentile points within three years.

The detrimental effect of low-performing teachers on student learning is particularly evident in the earlier years of schooling (Marzano 2003; McKinsey Report 2007). Studies on primary students placed with low-performing teachers for several years in a row reveal that students experiencing learning with these low-performing teachers suffer an educational loss that is largely irreversible. By the age of seven, children in these studies who scored in the top 20 percent on tests of numeracy and literacy were already twice as likely to complete a university degree as children in the bottom 20 percent. In England, students who were failing at age 11 had only a 25 percent chance of meeting the standard at age 14. By age 14, the chances that a failing student would graduate with the expected minimum set of school-leaving qualifications had fallen to just six percent (McKinsey Report 2007). Even in school systems that are known to be effective, there are students who do not progress quickly during their first years at school because they are not exposed to teachers of sufficient calibre. These students stand very little chance of recovering their academic success.

The McKinsey Report shows that in Finland, focussing on high-quality instruction has been more important than initiatives designed solely to increase the amount of instructional time. Students in Finland do not start school until seven years and attend classes for only four to five hours per day during their first two years of schooling. By age 15, they score top in the world in tests of math, science, reading, and problem solving—a full 50 points ahead of their peers in neighbouring Norway. Boston increased the number of students meeting curriculum standards from 25 percent to 74 percent in math, and from 43 percent to 77 percent in English, in just six years by focussing on the quality of teachers and their instructional practices. These examples reported by McKinsey show that significant gains in student achievement can be realized in a relatively short period of time with focussed attention on the goal of instructional improvement.

Elmore (2002) concluded that in order to achieve sustained gains in student learning, teachers must be provided with meaningful opportunities to enhance their teaching skills and content knowledge. Effective practices for professional learning reveal that when the content of existing professional development is connected to teachers' daily work, and follow-up support is offered, teachers can learn the necessary skills and strategies to dramatically improve student learning.

The above research on teacher effectiveness, effective schools, leadership, and learning communities describes the conditions necessary for significant gains in student achievement. These conditions include school-based goal setting, collaborative learning, curriculum and program coherence, meaningful assessment for professional and student learning, and leadership for effective instruction, as highlighted below.

School-based goal setting and collaborative learning

Where teachers

- are purposefully and intentionally organized for collaborative action
- are informed by their own research and the research of others, and apply the research to enhance student learning
- are engaged in professional learning that is content and context specific, taking into account the skills, understandings, knowledge, and attitudes of the learner
- collaborate with colleagues to improve instruction and assessment through demonstrations, observation, practice, feedback, reflection, and inquiry
- are engaged in concrete tasks of teaching, assessment, observation, and reflection to understand the processes of learning
- are engaged in sharing knowledge and providing opportunities to draw on the expertise of others within and across schools
- are engaged in learning that is grounded in research and knowledge about effective practices in instruction and student assessment, teaching, and learning, as well as the optimal conditions that enhance adult learning

Curriculum and program coherence

Where teachers

- align their professional learning around effective pedagogy and content-specific knowledge
- are involved in learning initiatives that are supported within a context of school and district initiatives

Meaningful assessment for professional and student learning

Where teachers

- assess and analyse student achievement data for responsive teaching
- develop and implement an enhanced repertoire of instructional strategies based on student results

Leadership for effective instruction and student learning

Where teachers

- are provided with sufficient time to engage in learning and follow-up support through opportunities like modelling, coaching, and collective problem solving that develop a strong sense of efficacy
- incorporate knowledge of the change process
- are supported by school, district, and system leadership, establishing professional growth and problem solving as a priority, supported by resources and incentives

A growing understanding of the learning process, especially adult learning, has produced a substantial consensus about these critical attributes that constitute effective professional learning practices.

Distributed leadership is widely recognized as a key component in the development and sustainability of effective practices in professional learning at the school level. Elmore (2000) highlights five principles of distributed leadership in schools:

1. the purpose of leadership is the improvement of instructional practice and performance, regardless of role
2. instructional improvement requires continuous learning
3. learning requires modelling
4. the roles and activities of leadership flow from the expertise required for learning and improvement, not from the formal dictates of the institution
5. the exercise of authority requires reciprocity of accountability and capacity

Nova Scotia can learn from these lessons.

Investing in quality professional learning for teachers can support improvements in instructional practices that lead to significant gains in student achievement.

Standards of Practice

Appropriate standards for teacher professional learning can serve as a catalyst for promoting dialogue and system-wide change in instructional and other educational practices. The EPDC endorses the need for common standards to guide all teacher professional learning in Nova Scotia and examined a number of resources in order to recommend an appropriate set of standards for consideration by school boards and the province. The National Staff Development Council (NSDC), an internationally renowned organization, focusses on ensuring success for all students through staff development and school improvement.

The NSDC has developed and honed a set of internationally endorsed standards to provide direction for "designing a professional development experience that ensures educators acquire the necessary knowledge and skills."

The NSDC standards were guided by three questions:

1. What are all students expected to know and be able to do?
2. What must teachers know and do in order to ensure student success?
3. Where must staff development focus to meet both goals?

The EPDC concluded that the NSDC standards for professional practice have excellent potential as a guide for designing and implementing professional learning in Nova Scotia. These standards of practice reflect the context, process, and content that support professional learning.

Context Standards

Staff development that improves the learning of all students

- organizes adults into learning communities whose goals are aligned with those of the school and district (Learning Communities)
- requires skilful school and district leaders who guide continuous instructional improvement (Leadership)
- requires resources to support adult learning and collaboration (Resources)

Interpersonal accountability is the energizer of improvement. This means we ask things of each other, we expect things of each other, we promise things to each other, and we're responsible for doing it.

~ Dennis Sparks
during EPDC Session,
October 3, 2007

Process Standards

Staff development that improves the learning of all students

- uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement (Data-driven)
- uses multiple sources of information to guide improvement and demonstrate its impact (Evaluation)
- prepares educators to apply research to decision making (Research-based)
- uses learning strategies appropriate to the intended goal (Design)
- applies knowledge about human learning and change (Learning)
- provides educators with the knowledge and skills to collaborate (Collaboration)

Content Standards

Staff development that improves the learning of all students

- prepares educators to understand and appreciate all students, create safe, orderly, and supportive learning environments, and hold high expectations for their academic achievement (Equity)
- deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards, and prepares them to use various types of classroom assessments appropriately (Quality Teaching)
- provides educators with knowledge and skills to involve families and other stakeholders appropriately (Family Involvement)

(National Staff Development Council 2002)

The Nova Scotia Context

The EPDC recognizes that the Nova Scotia education system as a whole is moving toward these standards, but that there are several conditions that need to be changed in the organizational culture and structure of our education system to ensure that our system is able to implement the standards of effective professional development for teachers. Nova Scotia has a comprehensive pre-service teacher education program that is increasingly responsive to effective teacher education. More and more there is evidence that collaborative job-embedded professional learning is being enacted to improve instructional practices. There is a greater commitment to shared responsibility for gains in student achievement.

The school accreditation model designed in Nova Scotia recognizes that real change in student achievement happens at the school and classroom levels when clear goals and effective collaboration are established. These goals are meant to be based on student data and to be endorsed by all staff. The model assumes that strategies developed to address these school needs are also supported by the school advisory council, the school board, and the department. An effective job-embedded staff development component is critical to achieving the desired results of the school accreditation process.

The EPDC recognizes that the school accreditation model can serve as a key driver of school improvement if other issues do not serve as barriers to enabling teachers and principals to embed staff development in the day-to-day work of teachers. Since school goals drive the focus of staff development activities, it is imperative that provincial curriculum and program priorities are harmonized with these school goals. This model is premised on the notion that teachers should identify knowledge and skills they will need to learn to achieve their goals and then collaboratively plan professional learning activities that will meet their individual and collective learning needs. It is thus necessary for professional learning that is normally imposed upon schools from out-of-school places to be harmonized with these school-based goals. An on-site staff development plan is included in each school's improvement plan, so it is important to place the highest priority on supporting this plan by education partners (school boards, NSTU, universities, Department of Education) whose professional development plans may often compete with this school-based plan for teacher time.

Effective Practices in Nova Scotia

There exist rich examples of effective innovations in curriculum and instruction in Nova Scotia that have provided teachers and students with robust opportunities for learning. While the impacts on student achievement are still being collated, qualitative evidence is available. Many of these innovations have been designed through partnerships with the Department of Education, school boards, and universities and have been supported by organizations like the Nova Scotia Educational Leadership Consortium (NSELC) and the Nova Scotia Teachers Union.

Junior High School Network

The Junior High School Network project, initiated in the mid-1990s, enabled junior high schools to focus on significant site-based goals for improvement in instruction and school environment and to create structures for teacher collegiality and professional learning within and across schools. A precursor to the school accreditation process in Nova Scotia, the Junior High School Network encouraged distributed leadership, collaborative professional and networked learning communities, knowledge sharing, and targeted resources and support from school boards and the department to support a focus on improvement.

Literacy across the Curriculum: Active Young Readers, Active Readers, Literacy Success, and Writers in Action

These ongoing initiatives, developed collaboratively with teacher leaders from all school boards and the Department of Education, embed regional leadership, significant resource support, and professional development to support teachers in implementing research-based literacy instruction and assessment for learning. The literacy initiatives have been sequenced rationally and have recognized that successful implementations take multiple years and focussed professional development. Resource support at the board level and at the school level in the form of student materials, teacher professional resources, and teacher mentors have enhanced the effectiveness of the innovations.

Mentoring

The Department of Education has started to implement a mathematics, literacy, and technology mentoring strategy across the province. This mentoring strategy was developed in collaboration with the NSELC and school boards. It is a research-based innovation that recognizes that teacher effectiveness is enhanced when teachers work with trusted colleagues to develop and share expertise through coaching, modelling, co-teaching, and reflective dialogue.

Elementary Science

In the 1990s, at least one school board in Nova Scotia worked with Mount Saint Vincent University to implement the Nova Scotia elementary science curriculum. The innovation was planned collaboratively with the university, which provided research funds, instructional staff, and consultative services. The innovation worked within a five-year time line. Over this time, teachers engaged in a minimum of 20 district-level professional development events organized collaboratively with school board consultants, the assistant superintendent, school leadership teams that included the principal of each site, and the university. As well, teachers were organized into learning teams at the site level. Each school appointed a science implementation instructional and resource leader.

The plan included strong elements of instructional modelling, content-specific knowledge sharing and pedagogy, feedback and reflective dialogue, coaching, and teacher collaboration. There was clarity around every phase of the implementation, which included the use of innovation configurations to chart change in practice. The school board allowed schools to opt for the innovation around the school's timetable and, as well, allowed each school to focus on implementing the science curriculum without having to choose to divide its focus on other competing, albeit worthy, innovations.

The innovation has had remarkable fidelity. Fifteen years later, the innovation is still being enacted with its original clarity, despite challenges in funding, immense staff changes, and numerous competing foci.

Professional Learning Using Technology

Online tools have expanded the opportunities for professional development and planning in Nova Scotia. Teachers and other staff are starting to use technology (such as Marratech and Moodle) through the Nova Scotia Virtual School to support their informal and formal professional learning. This technology provides significant opportunities to support learning communities around the province, particularly in rural areas.

For example, one board is using this technology to support face-to-face discussions among literacy and technology mentors who are in various locations. Participants can learn together discussing key issues, receive a presentation, or view websites together. Several school boards are using the technology to offer online courses through both an asynchronous component, where participants can work through the weekly modules at their own pace, and a synchronous component, where 20 to 70 participants can meet through an online video conferencing tool. This technology has also supported connecting to external expertise to support participants' learning. Also, French second language teachers throughout the province hold three sessions (12 after-school online encounters of 45 minutes twice weekly) per year to advance their learning. These sessions are provided in a differentiated way, depending on a self-assessment of their level of language competency (beginner, intermediate, or advanced).

Some senior high schools are beginning to use this technology to assist in managing their data, information, and supportive websites related to the junior high literacy assessment. Each school has its own password-protected site that contains data related to individual assessment results and a folder for each student who did not yet meet expectations.

University–School Board Cohorts in Focussed Graduate Learning

There has been an increase in the number of graduate cohorts offered by Nova Scotia universities with graduate programs in teacher education. Typically, universities partner with school boards to explore ways that a cluster of courses can be offered within a particular school board to meet particular needs of school systems for focussed and situated learning. These cohorts have been offered in such areas as French first language, resource teaching, leadership, guidance, middle school mathematics pedagogy, literacy, and physical education. These cohorts have enabled a blending of school-based needs with more theoretical knowledge from various disciplines. Ideally, school board staff are included on curriculum steering committees that provide advice on the specific direction of course content, and opportunities are explored for teachers from school boards to work alongside faculty members in research projects that advance situated issues of relevance and significance to school contexts. Occasionally, these cohorts are province-wide in scope, involve department consultants in their development, and provide another opportunity for teachers, faculty members, and department personnel to engage in networked learning communities.

What Made These Nova Scotia Innovations Successful?

The success of these programs and initiatives provides some guidance for the path forward. The success can be attributed to

- schools making evidence-based decisions on which innovations to implement in a rational and timely fashion
- tri-level support
- using research-based practices in their design
- clarity and shared meaning around what the innovation looks like in practice
- considerable time devoted to professional learning
- teachers working together with a focus on student learning
- a long-term focus with human and material resource support
- strong instructional leadership, support, and expectations
- responsive teaching based on data
- networked learning communities of practice at school, district, or provincial levels extending learning beyond particular sites

What Have We Learned from Our PLC–NLC Cohort Schools?

In 2006 a group of Nova Scotia schools embarked on a process to learn more about professional learning communities and to help educational leaders in those schools to hone their skills in professional learning. Most of these schools were also grouped into networks to facilitate cross-school professional learning. The leadership teams in these schools were brought together twice a year to share and learn from one another.

Some of the key learnings from this experience have informed the recommendations of the EPDC and will assist the provincial system in moving forward. These include the following:

- Capacity of principals is a key driver of success.
- School leadership must be shared for sustainability.
- Sustained support is critical.
- PLCs are all about improving instruction for student achievement.
- Student data must drive the teacher conversation.
- PLCs are an effective mechanism for achieving school goals established through school accreditation and school improvement planning.
- School networks are essential, particularly for small schools.
- Principals need networks in which to share and learn.

Directions For Professional Learning in Nova Scotia

Belief Statements

The following belief statements are the foundations upon which the new proposed model of professional learning is built. They integrate effective practices and advance the strengths, commitment, partnerships, and student focus that exist in Nova Scotia.

Leadership at all levels of education is a critical factor in effective professional learning. This leadership must be consistently united in focus on placing a high priority on creating time and space for school-based professional learning.

Schools are the most effective site for determining and enacting meaningful professional learning that influences student learning.

Curriculum and program coherence through a province-wide consensus about the type, timing, viability, and nature of what is taught and learned in schools is a necessary condition of effective professional development.

A shared commitment to assessment and support for meaningful professional and student learning by all educational partners is needed to achieve appropriate learning for all students in Nova Scotia.

Thus, the EPDC has concluded the following:

1. The teacher has the greatest impact on the learning of students.
2. Effective teachers are continuous learners.
3. When teachers are learning together, students achieve and learn at higher levels.
4. Gains in student achievement can be achieved with a focus on student learning and improvements in instruction.
5. Schools where teachers meet in collaborative learning teams focussed on improving instruction achieve the greatest gains in student learning.
6. Effective instructional leadership from the principal is key to successful schools.
7. Student learning is increased when there is a guaranteed and viable curriculum.
8. Instructional inquiry must focus on the needs of all students.
9. Effective schools have a clear focus that is developed in conjunction with and communicated to all members of the school community.

Our results also indicate that professional development that focuses on academic subject matter (content), gives teachers opportunities for 'hands-on work' (active learning), and is integrated into the daily life of schools (coherence), is more likely to produce enhanced knowledge and skills.

~ Michael Garet and colleagues

It is a crazy, backward system built on time management, on the theory that productivity is filling time with activity. There is almost no time for reflection, no time for quality improvement, no time for listening to yourself and the other teachers in a reflective fashion that brings true learning. As long as 'thinking time' is designed in opposition to and borrowed from 'doing time' you have not designed the future. The definition of the role of the teacher and the student has to include not only doing, but also thinking about how to do it better.

~ Patrick Dolan in *Restructuring Our Schools*

The Recommended Vision for Professional Learning in Nova Scotia Schools

- All teachers in all schools engage in high-quality professional learning as part of their daily work to ensure success for all students. Teaching is a collaborative process. Classrooms are open, and teachers and students are passionate about learning. Teachers collaborate every day and build upon the trust relationships that exist within the school to support their professional development and to increase student achievement.
- Student data is used to inform teachers' professional practice and instruction. Teachers work together to assess student data, reach a shared understanding of what the student data means, and collaboratively learn new instructional strategies and implement these strategies to address specific learning needs of their students. Teachers talk openly about quality and student outcomes and offer suggestions and advice to their colleagues in a collegial and supportive environment.
- The learning goals of the teacher are based on student data, individual development needs, and the goals in the school improvement plan. Opportunities for professional learning in Nova Scotia are responsive to these individual needs.
- The principal within the school cultivates shared leadership, encourages and supports data collection and analysis, facilitates teacher collaboration and instructional leadership, and ensures research-based decision making. The principal is working alongside the teachers to understand student data and to develop effective instructional strategies.
- The teachers and principal are systematically and continually supported by the school board and the department in achieving their student and adult learning goals.
- Teachers' discussion is focussed on teaching and learning. There is less talk about process and implementation and more talk about how students are doing. There is evidence of the school's priorities during these conversations, and they are visible around the school. There is a shared sense of purpose.
- The curriculum in Nova Scotia is both guaranteed and viable. There is alignment between the curriculum, instruction, and assessment and a shared knowledge of the provincial curriculum outcomes.
- Teachers engage in a variety of classroom-based assessment practices ("for" learning and "of" learning) that provide current and reliable data for instructional decision making.
- There is flexibility in the system for differentiated professional learning, depending on the learning needs of the teacher and the learning needs of the students.

What Does Effective Professional Learning Look Like?

Based on research, effective practices, and the deliberations of the EPDC, the professional learning community design is recognized as an effective model for increasing student achievement, through teacher collaboration, leading to instructional improvements.

Professional learning communities are not structures or organizations; they are learning cultures. They involve groups of teachers coming together professionally on a regular basis to take targeted action to improve student outcomes based on student data. Teachers involved in professional learning communities take responsibility for their learning and contribute to the development of others. They continuously seek and share learning and then act on what they learn.

Five components of professional learning communities have been defined by Kruse, Seashore, and Bryk in 1993. In these schools teachers

- **engage in reflective dialogue**—talk about their situations and the specific challenges they face
- **de-privatize their practice**—teachers share, observe, and discuss each other's teaching methods, philosophies, and strategies
- **develop a collective focus on student learning**—teachers assume responsibility for all students, not just those assigned to them; they believe all students can learn and they work with other teachers to ensure that students are achieving at high levels
- **engage in collaboration**—they develop shared understandings of students, curriculum, and pedagogy; they work together to produce materials and activities that improve instruction and assessment for students
- **share common norms and values**—teachers in a professional learning community have agreements about learning, teaching, and assessment that guide their decision making and actions

Through professional learning communities, teachers develop new understandings, strategies, and tools to enhance the effectiveness of their teaching practice. It is a deliberate approach to focussed collaboration and shared learning that is built over time and is based on trust, commitment, and mutual goals.

Networked learning communities (or school networks) are also proving to be an effective strategy for school reform and student achievement. Networked learning communities are groups of schools (or individual teachers across those schools) that commit to working and learning together. They learn with one another (by participating in common and joint PD sessions), from one another (through learning walks, development of common assessments, sharing sessions), and on behalf of one another (for example, lead teachers develop expertise for the network). This is a particularly beneficial approach in small schools where there may not be a cadre of teachers in similar subject areas to support the collaborative learning process.

The spirit of a good learning community is one of shared responsibility and collaborative inquiry for both adults and students.

~ Tony Wagner

What Does Professional Learning Look Like in Nova Scotia?

To help the reader to understand what PLCs look like in action, two vignettes were developed by the EPDC. These vignettes portray typical activities and areas of focus in the fictitious Nova Scotia schools, Wellington High and Lighthouse Academy.

Wellington High School

School administrators and teachers at Wellington High have worked very hard over the past three years to create a challenging learning environment for both adults and students. Staff members have come to believe that for students to be successful in school teachers need to be learning every day. Teachers at Wellington also believe that the most effective way to increase student achievement is to improve their teaching practices. And working with one another to examine their teaching simply makes sense.

Three years ago the principal, Sarah Whidden, and department heads introduced an instructional coaching program at Wellington High. The purpose of the coaching program is to increase teachers' knowledge and skill in the classroom. Every teacher is a member of an instructional learning team under the leadership of the department heads.

During school-based professional learning days, teachers at Wellington High are expected to study current student achievement data with their department heads. As a result of this data analysis, each department identifies weaknesses in student achievement, and colleagues discuss and share instructional strategies that will focus attention on these needs. Teachers commit to implementing the teaching strategies as an immediate and coherent response to these identified student achievement needs. During monthly department meetings, teachers talk about what has proven to be successful, and they share samples of student work that demonstrate student growth. This continuous instructional improvement cycle (study, plan, do, assess) is embedded in the school culture at Wellington High.

During department meetings, teachers also read current and interesting articles about successful teaching strategies and then discuss how they can use these ideas in their classrooms. Teachers share materials, videotape themselves teaching a lesson, and have honest discussions about what works and what does not work in their classrooms. Department heads, in co-operation with board level co-ordinators and teachers, organize a series of workshops and five-day summer institutes focussed on improving instructional practices.

In their role as instructional coaches, department heads co-plan and co-teach with colleagues within their academic discipline. They also teach model lessons, observe colleagues teaching, and give timely feedback to teachers within their department. During classroom coaching sessions, the department head and the teacher discuss what they observed, what they learned, and how they can change their teaching so that students can be more successful.

The English department at Wellington High decided to introduce lesson study as an extension of the coaching program. Lesson study provides a group coaching experience where four teachers work together to develop a lesson and then gather to observe one of the group teach the lesson. Following each classroom presentation, the group continues to work together to refine the lesson based on their discussions. The lesson study group works on refining the lesson until they are satisfied that it represents great teaching.

Planning lessons together, improving those lessons over time, co-teaching and teaching model lessons, and giving one another feedback in the classroom have become powerful sources of learning for the teachers at Wellington High. Teachers are convinced that more students will succeed in school, and more students will achieve at higher levels, as they help one another refine their teaching practices.

Lighthouse Academy

Lighthouse Academy is a P–9 school located in rural Nova Scotia. Lighthouse administration and staff agreed to officially enter the provincial school accreditation program this past September. In order to identify their school goals, the staff engaged in a comprehensive self-assessment or internal review. Teachers worked in small groups to examine achievement data in all curriculum areas across the school. Teachers, school administrators, and support staff also analysed student, parent, and staff survey results.

After examining the data, elementary teacher teams presented a compelling argument that a high percentage of Lighthouse Academy students were below acceptable levels in reading. The staff reached a consensus decision that reading fluency and reading comprehension needed to be the number one goal in their school improvement plan. Their second school improvement goal is to increase student achievement in math at the middle school level.

Teachers were organized into elementary grade level teams where they were asked to identify successful reading comprehension strategies that have proven to be effective in their teaching. During these discussions, staff discovered that two elementary teachers at Lighthouse were already using instructional strategies that appeared to be getting very good results. The two teachers, Eleanor Drake and Bob Sanford, have now assumed a leadership role in familiarizing their colleagues with effective teaching strategies. They conduct mini-workshops during staff meetings and share instructional materials with colleagues. Eleanor and Bob also invite colleagues to visit their classrooms to observe the strategies in action. They also volunteer to visit classrooms to provide further support to help teachers strengthen their students' reading comprehension through explicit instruction and guided reading opportunities. School administrators and specialist teachers cover their classrooms while Eleanor and Bob work with colleagues.

To facilitate further learning about literacy, the principal, Ted Avery, organizes bi-weekly learning walks. During the learning walks, small groups of teachers have opportunities to visit Lighthouse classrooms in search of teaching ideas. Teachers involved in learning walks gather with the principal 15 minutes before the walk begins. Different roles are assigned within the group. For example, one observer pays attention to the teacher, one observer scans the learning environment, and one observer focusses on the students. The learning walk group spends about five to eight minutes in each classroom. When they have completed their observations, the group meets outside each classroom. When all the classroom visits are completed, the principal gathers the group to have a final debriefing session. Teachers discuss what they observed, what they learned, and how they can use these ideas in their own classrooms. Every two months, the principal also organizes a learning walk in another elementary school to search out literacy ideas and to provide Lighthouse teachers with broader networking opportunities.

Teachers interested in expanding their knowledge about assessment for learning are actively involved in the LIFT (Literacy Initiative for Teachers) program. Substitutes are provided to release elementary teachers so they can observe the Reading Recovery teacher lead a lesson and therefore deepen their understanding about the observation-conversation assessment method. LIFT participants then gather at the end of the day for a 30-minute debriefing session focussed on what they learned. The debriefing session gives teachers time to reflect on the teaching process and to discuss how the school can strengthen its instructional program.

At the middle school level (grades 7, 8, and 9) teachers are engaged in developing common assessments in math. The purpose of this focus is to create more clarity and consistency in the school's instructional program. A curriculum consultant from the regional board office is working with middle school teacher teams to help ensure that the written, taught, and assessed curriculum elements are aligned. The process is helping teachers develop a shared understanding of the essential curriculum outcomes. This collaborative time also provides opportunities for teachers to exchange ideas about how to teach and assess the outcomes and to demonstrate strategies that work in their classrooms. Middle school teachers at Lighthouse Academy are also attending a series of Department of Education workshops focussed on curriculum mapping, assessment for learning, and assessment of learning. The math mentor assigned to Lighthouse Academy is co-planning math lessons and co-teaching with middle school teachers as they attempt to implement what they have learned in the workshops.

The teaching staff and school leadership at Lighthouse Academy believe that teachers working in learning teams will build their collective capacity to solve all their student achievement problems. Teamwork is the key to unlocking continuous and effective learning for teachers that will provide higher levels of success for all students.

Operationalizing the Standards of Practice in Nova Scotia

The recommended Nova Scotia model for professional learning adopts the standards of practice developed through the National Staff Development Council. These standards reflect the context, process, and content that support professional learning.

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
organizes adults into learning communities (Learning Communities)	- meet regularly with colleagues during the school day to collaboratively plan instruction and assessment focussed on student learning and continuous improvement	- create and maintain a variety of collaborative learning communities to support teacher and student learning	- prepare administrators and teachers to be skillful members of learning teams - create policies and structures that support the implementation of site-based and networked learning communities - adopt policies that support ongoing job-embedded professional learning and continuous improvement - adopt employee agreements that support continuous individual and organizational improvement	- collaboratively plans with boards to provide high-quality PD around professional learning communities, based on research and best practices - adopts employee agreements that support continuous individual and organizational improvement

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
requires skilful leaders who guide continuous instructional improvement (Leadership)	- serve in a variety of instructional leadership roles - articulate the benefits of professional learning for student achievement - participate in instructional leadership development experiences - contribute to the planning of PLC and school-based professional learning events and opportunities	- promote a school culture that supports ongoing team learning and continuous improvement - create experiences for teachers to serve as instructional leaders within the school and across networked learning communities - participate in professional learning to become more effective instructional leaders - involve staff in planning high-quality professional learning focussed on continuous improvement around effective teaching and instructional design - model continuous improvement and professional learning	- ensure that improved student achievement is a regional priority - provide professional learning experiences to enable principals to function as instructional leaders - develop teachers to serve as instructional leaders, coaches, and mentors in schools and across the region - provide knowledge of research-based high-quality professional learning that enhances student achievement - support school-based professional learning practices and adopt policies that support ongoing professional learning and continuous improvement - support the school accreditation process - model results-driven and evidence-based professional learning	- acts as a clearinghouse of research and best practices that have an impact on student achievement - organizes and facilitates professional learning opportunities for principals and school board leaders - creates policies that provide for structures and funding for schools to operate as learning communities and for teachers, administrators, and board staff to participate in job-embedded professional development - helps school boards to develop leadership capacity for school improvement processes

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
requires resources to support adult learning and collaboration (Resources)	- access funds to support learning priorities and goals based on improving instruction and student learning	- advocate for and allocate resources to support a small number of high-priority goals designed to improve student learning and instructional practice - allocate resources to maintain professional learning communities, enabling teachers and staff to meet within the school day	- adequately fund professional learning and commit adequate time to professional learning - advocate for and allocate resources to support a small number of high-priority regional goals designed to improve student learning and instructional practice - allocate resources to maintain professional learning communities that enable school-based staff to regularly meet within the school day	- acts as a clearinghouse for resources that support high-quality adult and student learning - promotes adequate funding structures for professional learning

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement (Data-Driven)	- collect and analyse data continuously throughout the year to determine learning needs of students and teachers and to monitor and revise school and classroom improvement strategies	- work with whole staff to analyse a variety of student achievement data to determine and monitor school improvement goals and student and adult learning goals - use the data to design PD for staff - compare baseline data with new data collected multiple times each year in order to monitor for continuous improvement - analyse a variety of other school data, including discipline referrals, retention rates, school early leaving rates, high school completion to determine school improvement goals	- prepare school accreditation teams to analyse student data to determine student and adult learning goals - support schools in learning how to collect and use data for improvement - use disaggregated data from a wide variety of data sources: large-scale assessments, criterion- and norm-referenced assessments, regionally designed assessments, student work samples and portfolios - create school and regional charts and graphs to help schools make decisions - use participant data (levels of use and stages of concern) as well as tools like Innovation Configurations to design appropriate and timely professional learning	- analyses disaggregated provincial data around student achievement and other student data (e.g., early leaving rates; attendance rates; family involvement) - uses provincial data to establish adult learning priorities - supports central office staff to use data effectively to shape and implement responsive professional learning - embeds research on levels of use and stages of concern in implementation initiatives

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
uses multiple sources of information to guide improvement and demonstrate its impact (Evaluation)	- use a variety of school-level and classroom-level data to evaluate the impact of professional development on student learning	- conduct evaluations of school-based PD and use the results to improve the quality of the PD and to identify the impact on teacher practice and student learning	- analyse changes in student achievement or behaviour; classroom practice; organizational support for the change; gains in participant knowledge; and participant satisfaction when developing professional learning - produce evaluation reports appropriate to the needs of specific audiences	- uses provincial data to guide adult learning - evaluates the impact of provincially organized professional learning to guide design and to establish future learning goals - uses provincial disaggregated data to evaluate the impact of professional learning

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
prepares educators to apply research to decision making (Research-Based)	- work with colleagues and administrators to study educational research, to make school visitations, and determine necessary organizational support before adopting an innovation	- read and interpret educational research and create opportunities for teachers to read and use educational research in their practice, and to make school-wide instructional decisions - use educational research to inform PD and school improvement approaches	- collect, synthesize, and use educational research related to school and regional improvement goals - provide a clearinghouse of research-based programs and research-based best practices - support schools in effectively using educational research to plan and to monitor improvement	- participates in national and international conferences, institutes, and workshops focussed on instructional design and instructional and assessment practices - leads the province in developing and using existing educational research to guide program and curriculum development - adopts a leadership role in creating, collating, and distributing research on best practices around instruction and assessment - establishes structures and partnerships with universities, other post-secondary institutions, the NSELC, and school boards to initiate Nova Scotian educational research - uses educational research to guide decision making around professional learning

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
uses learning strategies appropriate to the intended goal (Design)	- work in long-term and in-depth learning teams to meet expected improvement goals - use learning structures like collaborative lesson design, lesson study, common assessments, analysing student work, and problem-solving sessions - actively participate in multiple PD sessions with components of practice and feedback on new skills - align professional learning with improvement goals - implement new classroom practice as a result of support that takes a variety of forms, including coaching, mentoring, co-teaching, and student achievement data	- advocate for collaboration as a major component of PD - provide PD around collaborative structures like lesson design, analysing student work, and professional learning networks - ensure that staff development is sustained over a two- to three-year period with multiple sessions on the same topic, provide multiple classroom coaching experiences to assist with the implementation of new instructional and assessment strategies, and communicate expectations for implementation between sessions - work with staff to create rubrics and innovative configuration maps that clearly describe classroom practices - communicate how these expectations tie to school improvement goals.	- prepare administrators and teachers to design effective professional learning experiences that include a range from individually guided, large-group, small-group, and job-embedded models of professional learning - support principals and teacher leaders in developing effective school-based learning based on data - provide multiple-session professional learning and coaching for region-wide priorities on the same topic and for the same people over a two- to three-year period - provide follow-up activities for a two- to three-year period - provide and organize e-learning experiences	- develops and supports models for effective professional learning - prepares central office staff to implement a range of models for professional learning - develops provincial learning goals based on data - implements long-range and sustained support for a variety of staff development and professional learning models, including mentoring, coaching, and professional learning communities - uses data to revise programs and curriculum that model and embed research-based instructional and assessment strategies and differentiation - creates and supports provincial e-learning networks

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
applies knowledge about human learning and change (Learning)	- participate in professional learning that models expected instructional methods and deepens understanding	- coach internal leaders to support individuals as they move through stages of concern and levels of use - differentiate staff development through the use of lead teams, coaches, mentors, workshops, and teaching partners - solicit staff feelings and concerns to design staff development that addresses their needs	- provide differentiated professional learning experiences that reflect need and career stages, while embedding research on change theory - support a variety of professional learning models, including mentoring and coaching, and lead learning teams - solicit teacher and administrator concerns and feelings and design professional learning to address and resolve concerns associated with implementation	- helps school boards to develop professional learning that is differentiated and increases content-knowledge and the implementation of research-based best practices - provides leadership for the professional learning of staff developers, school-based administrators, and central office personnel

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
provides educators with the knowledge and skills to collaborate (Collaboration)	- work collaboratively with colleagues across the school on improving practice and the achievement of all students - use effective group process skills and conflict management to support collegial interactions	- build a school culture that is characterized by trust and respect, while communicating a strong vision for the school that includes expectations for student success - make decisions based on what is good for students - work collaboratively with a variety of school-based leaders and committees - build leadership capacity through collaborative structures and decision making - model and lead teachers in working successfully with their colleagues and provide training on collaborative decision making and conflict resolution - use a variety of structures and resources so that staff can work collaboratively in learning communities focussed on student achievement	- build a regional culture characterized by collective responsibility for student learning - work collaboratively with schools, administrators, teachers, and families to develop policy and programs - provide a range of resources so that teachers, administrators, and central office staff can work routinely with each other to learn, coach, and provide feedback - support the development of school-based collaboration so that collegial interaction is successful - provide online and e-learning technology for teachers to work in learning networks	- ensures that regional boards have the capacity to create structures that embed collaboration - works collaboratively with school boards to create policies, programs, and learning initiatives - leads professional learning on effective models that embed collaboration among professional staff - provides funding structures and policy that support collaboration in professional learning that is based on student data and school improvement - builds provincial learning networks that use technology solutions

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
prepares educators to understand and appreciate all students; create safe, orderly and supportive learning environments; and hold high expectations for their academic achievement (Equity)	- communicate high expectations and high support for each student - establish a learning environment that is physically and emotionally safe - demonstrate respect and appreciation for all students and their families - use a wide range of strategies to ensure success for all students - accept responsibility for the learning of all students	- build a school culture that is characterized by the collective responsibility for student learning and safety - communicate high expectations for teachers to support the learning of struggling students by changing practice - provide ongoing professional learning to enhance teacher skills and knowledge about teaching struggling students - provide staffing and schedule so that students are supported in making achievement gains - provide coaching and mentoring - challenge underlying assumptions concerning student learning and the role of parents/guardians, socio-economic characteristics, race, and background - help staff incorporate practices that support student resiliency, persistence, and effort - develop student and staff responsibility for reinforcing positive behaviours within the school - confront both students and staff who violate the norms of respect, safety, and caring	- communicate high expectations for schools to use knowledge and skills to teach students who struggle - disaggregate data to determine the impact of programs on student learning - identify effective programs based on student data - provide ongoing professional learning to enhance teacher skills and knowledge about teaching struggling students - challenge underlying assumptions concerning student learning and the role of parents/guardians, socio-economic characteristics, race, and background - assist schools with developing effective positive behaviour support programs that build an environment of respect, caring, and safety - create and implement programs and policies that support respect, caring, and safety	- assists school boards in implementing equity-based policies that attend to the success of all students - disaggregates provincial data to determine the impact of programs and professional learning on student achievement - provides provincial leadership around differentiation, interventions, and instruction, and assessment for all students - provides leadership around race relations, cross-cultural understanding, and human rights

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards, and prepares them to use various types of classroom assessments appropriately (Quality Teaching)	- differentiate instruction based on needs, interests, and backgrounds to help students meet and exceed expectations - exhibit deep understanding of subject matter, pedagogy, and instructional strategies and are able to adapt and integrate them into classroom lessons - use a variety of formal and embedded informal assessments to monitor student progress - use evaluative feedback, samples, and rubrics to help students hit the targets	- promote educators' deep understanding of content knowledge and use of research-based instructional strategies as a high priority for all staff - provide time and support for staff to engage in ongoing and intensive professional learning - emphasize content knowledge and research-based instructional and assessment strategies in observations, conversations, and performance appraisals - model content knowledge and best practices in meetings - create work schedules that support professional learning and collaborations around quality teaching and student achievement - create an environment of trust and risk taking for staff who implement innovative strategies	- ensure that all teachers have deep content knowledge and use research-based instructional strategies to effectively teach and assess all students - develop and communicate teaching standards and expect professional staff to demonstrate competency in content knowledge, instructional strategies, and assessment - emphasize the use of a variety of formative classroom assessments as a high priority for the region - develop skills of school administrators to promote quality teaching (walk- and talk-throughs, observation, feedback) - recognize and support excellence in teaching - provide staffing formulas that allow teachers to work together to enhance teaching and learning	- develops Innovation Configurations that clarify best practices as well as stages of implementation for new curriculum and programs - provides leadership on content-knowledge expectations and standards for best practice - provides professional learning opportunities for central office staff and school-based administrators and teachers on best practices - provides funding structures that enhance teacher collaboration to enhance teacher and student learning

PROFESSIONAL LEARNING STANDARDS AND IMPLICATIONS FOR TEACHER, PRINCIPAL, BOARD, AND DEPARTMENT

STANDARDS	ROLES			
Staff development that improves the learning of all students	**Teachers in a learning community**	**Principals as instructional leaders**	**School boards supporting schools**	**Department of Education supporting school boards**
provides educators with knowledge and skills to involve families and other stakeholders appropriately (Family Involvement)	- develop partnerships with families - communicate formally and informally with families about student progress and student programs - use teacher communication plans regularly	- update the school communication plan regularly - use technologies to communicate with families - offer and support a range of before-school, after-school, and community partnerships - work with local partners to develop programs and opportunities around community service and community-based education - implement a range of strategies to increase family involvement and parent education around best practices	- support school and regional initiatives to grow and sustain family involvement, including parent/guardian seminars on parenting skills, how to develop volunteer programs, and how to communicate with families concerning school responsibilities (grading practices and procedures, progress updates, school events, school learning goals)	- works with a range of provincial agencies to develop policies and programs that support family involvement

Recommendations

Recommendations

The recommendations of the EPDC are grouped into four themes:

Theme 1:
Leadership for effective instruction and student learning

Leadership at all levels of education is a critical factor in effective professional learning. Leaders at all levels are consistently united in their focus on placing a high priority on creating time and space for school-based professional learning.

Theme 2:
School-based goal setting and professional learning

Schools are the most effective site for determining and enacting meaningful professional learning that has an impact on student learning.

Theme 3:
Provincial collaboration for curriculum and program coherence

Curriculum and program coherence, through a province-wide consensus about the type, timing, viability, and nature of what is taught and learned in schools is a necessary condition for effective professional development.

Theme 4:
Assessment for meaningful professional and student learning

A shared commitment to assessment and support for meaningful professional and student learning by all educational partners is needed to achieve meaningful and appropriate learning for all students in Nova Scotia.

Without the support [learning] communities provide, the challenges of overcoming the inertia of the status quo and persisting in making complex changes in practice can seem insurmountable.

~ Dennis Sparks

The professional development model has to change. Be radical not cautious!

~ Classroom Sessions Participant

Enabling principals to put instructional leadership first requires a realignment in school districts of the practices, responsibilities, and duties assigned to principals, and will entail delegating many of the nonacademic tasks to assistant principals or other staff members.

~ Christopher Cross and Robert Rice

Theme 1: Leadership for Effective Instruction and Student Learning

In building the following recommendations, the EPDC was guided by a set of fundamental principles:

- Leadership development is at the heart of successfully realizing the vision, with school-based leadership at the centre.
- Leadership needs to align educational program priorities with school improvement processes.
- Every teacher benefits from engagement with an instructional coach/mentor, and engaging with a coach is expected of every teacher to support their individual development.

Under Theme 1 it is recommended that

1.1 The department lead the development of a comprehensive instructional leadership program to be delivered in co-operation with the Nova Scotia Educational Leadership Consortium (NSELC), the Nova Scotia Teachers Union (NSTU), universities, and other instructional leadership experts, focussed on developing principals' deep knowledge about teaching and learning, with the skills and dispositions to facilitate situated leadership for instructional improvement in schools.

1.2 The department, boards, and universities work co-operatively to employ an external expert to analyse the management tasks of the principal and develop recommendations to reduce the tasks that take time away from the principal's role as an instructional leader. This audit would build on the earlier study undertaken through the Principal Liaison Advisory Group.

1.3 Nova Scotia adopt the National Staff Development Council standards. All teacher professional learning should be aligned with the standards, whether the learning happens at the school, school board, or provincial level. The standards should inform decision making in planning and evaluating professional learning.

1.4 In-classroom coaching/mentoring programs continue to be expanded to provide every school with access to an instructional coach. A provincial team should develop a strategy to evaluate the current Nova Scotia coaching/mentoring program to improve its effectiveness.

1.5 Principals have regular and sustained access to leadership coaches to support their role as instructional leaders.

Theme 2: School-Based Goal Setting and Professional Learning

In building these recommendations, the EPDC was guided by a set of fundamental principles:

- Student learning is the main function of all we do, and student achievement can be increased through instructional improvements and a focus on school improvement.
- School accreditation is an important provincial strategy to help increase the effectiveness of the education system, marked by high levels of trust and responsiveness.
- PLCs are an effective way to realize the true potential of school improvement and to bring school accreditation to a higher level of performance as measured by gains in student learning and achievement.
- The allocation of resources should be based on the principle of educational equity and consider the variable context of school improvement needs, stages of teacher careers, and individual teacher needs for learning.

Under Theme 2 it is recommended that

2.1 A comprehensive professional development program be designed and implemented to help teachers and principals gain the knowledge and skills required to implement best practices in job-embedded professional learning.

2.2 Every school be part of at least one networked learning community (NLC) and these NLCs be actively supported and resourced. Specialist teachers would also benefit greatly from NLCs. A special fund should be created to encourage and support the development of networked learning communities.

2.3 School board central office and Department of Education staff work together to develop effective strategies to support school-based professional learning. This means we will continue to strengthen site-based support to provide hands-on assistance to school leaders in implementing the school's improvement plan and addressing the situated learning needs of teachers for instructional improvement.

2.4 The roles for board and department staff who facilitate professional learning and provide ongoing support for their professional learning be clarified and revised to take on new roles in support of the Nova Scotia approach to professional learning.

The role of department consultants continue to include renewing curriculum and providing provincial leadership, and expand to include more direct collaboration with boards in implementing coaching/mentoring and in responding to school-based professional learning needs.

The role of school board consultants be expanded to include greater on-site support for school accreditation and other aspects of on-site and job-embedded professional learning and to provide learning experiences for teachers and administrators about how to use educational data and research effectively.

2.5 Every school board assign dedicated support to assist schools with their professional learning and data interpretation and management needs, particularly during years two, three, and four of implementation in their school accreditation process.

2.6 The base funding for school accreditation during implementation be increased.

2.7 Job-embedded time for teacher collaboration be made available.

2.8 Teachers be encouraged to apply under Article 60 to their PD committee(s) to access funding for whole-school professional learning initiatives.

Theme 3: Provincial Collaboration for Curriculum and Program Coherence

In building these recommendations, the EPDC was guided by a set of fundamental principles:

- Curriculum that is viable, guaranteed, and coherent enables the most effective learning to occur.
- The more consensus among education partners and the more united they are to focus curriculum and other program areas on shared goals and agreed-upon strategies to achieve these goals, the more effectively the system will function.
- Professional learning communities will be effective and sustained only with a clear understanding of what learning communities are and how they operate across the system—building capacity is a critical step to supporting the development of effective PLCs.
- Curriculum and program initiatives are most effectively implemented when they are developed comprehensively with the necessary policy and program alignments, when resources are clearly provided, and when related implementation aspects such as assessment, differentiated instruction, technology, and adaptations are well integrated.

Under Theme 3, it is recommended that

3.1 The department should continue to consult with boards and other educational partners to develop long range plans with respect to curriculum design, curriculum implementation, and teacher professional learning. These plans should be reviewed annually by key education partners and revised as needed. Key partners include the department, school boards, school leadership, universities, and the NSTU.

Senior staff should monitor existing structures and processes, and should consider if new structures are required to ensure that the principles of co-construction and tri-level support are prominent in the development and review processes.

Theme 4: Assessment for Meaningful Professional and Student Learning

In building these recommendations, the EPDC was guided by a set of fundamental principles:

- Assessment for and of student learning is the responsibility of all partners in the education system.
- If schools are to be held accountable for achieving their improvement goals, they need support, including increased flexibility and control over the sequencing of new curriculum implementation.
- The availability of accurate and timely student data and the ability to understand how to use this data are critical for assessment of, and for, learning.

Under Theme 4 it is recommended that

4.1 The Department of Education, school boards, and schools of education collaborate to ensure that teachers are supported to learn ways in which student data can be accessed, understood, and analysed to assist them with improving student learning.

4.2 The Department of Education collaborate with universities to design and implement a reporting and accountability evaluation framework to assist school boards in assessing the effectiveness of instructional leadership, teaching practices, and student achievement.

4.3 Universities with schools of education programs be encouraged to focus faculty and graduate student research on the development and efficacy of professional learning communities in Nova Scotia schools.

4.4 The Department of Education, NSTU, universities, and school boards facilitate (through funding) a greater collaborative focus on action research and teacher inquiry with particular emphasis on examination of the relationships between effective professional learning and improvements in student achievement.

4.5 The Department of Education, with support from universities, establish a research centre to support easier access to the effective resources in professional learning for school boards and school leaders.

Recommendations Related to Implementation

In building these recommendations, the EPDC was guided by a set of fundamental principles:

- Establishing an urgency for change will motivate people to join and believe in these change initiatives.
- A deep commitment from political leaders to work in collaboration with educational leaders will move this complex change forward.
- Resistance is a natural part of the change process; respect it and learn from it.
- Clearly defining new roles and responsibilities and guiding people through these transitions are critical to our success.

To support effective implementation, it is recommended that

5.1 A comprehensive communications strategy be developed and implemented in conjunction with experts in communications, marketing, and change management.

5.2 The Education Act be amended to reflect this provincial approach to teacher professional learning.

5.3 The ECF develop a comprehensive leadership strategy to guide the implementation of the EPDC recommendations, and that senior leadership collaborate to guide the change management process through a combination of standards, accountability, support, and resource allocation.

APPENDICES

Appendix A

Special Joint Session on Teacher Professional Development of the Education Consultative Forum and the Education Programs Committee: Summary of Feedback, February 2006

Introduction

On February 6, 2006, a special Education Consultative Forum (ECF) meeting was held to gain a common understanding of the issues, systemic needs, and barriers associated with delivering teacher professional development (PD) in Nova Scotia. The purpose was to inform the development of a new PD model for the province.

The objectives of the meeting were to

- engage in focussed discussion on key questions to be addressed in a new model of PD for Nova Scotia
- confirm agreement that changes are needed to the current mode of delivery
- confirm the commitment and willingness to change how we currently approach teacher PD at the provincial, board, and school levels to improve school relevancy and teacher efficacy
- set the stage for targeted research on possible approaches for consideration

A successful outcome to this meeting would be an enhanced ability to respond to the following questions:

- What contributes to excellence in the delivery of teacher PD (critical success factors for administrators, principals, teachers, parents, and students)?
- What are the various ways in which we deliver/manage teacher PD now? What elements or formats appear to be working well? How do we know? What needs to be preserved about our current model? Are these views broadly held?
- What are the issues, needs, and system demands that need to be addressed in a new PD model? What are the barriers that we need to overcome?
- What are the appropriate criteria for evaluating the effectiveness of a new PD model?

Needs Identification

There is broad recognition that we need, as a system, to fundamentally change how we ensure the preparedness of our teachers. Elements of this change include a comprehensive and responsive pre-service education, effective and supported professional development during service, and an understanding of and commitment to the shared responsibility of ensuring a current and efficacious teacher workforce. The Special Joint Session of the Education Consultative Forum and the Education Programs Committee focussed on the latter two objectives for change.

School improvement planning was identified as a primary instrument or driver in establishing PD priorities at the school level to promote targeted improvements and relevancy for the teacher. It should be considered the centrepoint of the new PD model for Nova Scotia, which is aligned with the strategic directions of the school, school board, department, and the province. Many participants noted that principals need to be change agents within their school, and in the education system. In addition, it was strongly noted that the teachers union must be a partner in creating this culture of change.

The discussion was guided by an exercise designed to encourage participants to consider what elements of the current model need to be preserved, what practices need to be stopped or adapted to better suit current demands, and what we, as a system, need to start doing to enhance the effectiveness of teacher PD. Participants were encouraged to consider these key questions in relation to the roles of both the department and the school board—what is working well? where do we need change? what are the needs, issues, and system demands that should be addressed in a new PD model?

Following the structured exercise, general discussion ensued in plenary session. The following is a summary of the feedback during the exercise and the plenary discussion and is intended to guide the research to be undertaken to support decisions on a new PD model for Nova Scotia.

1. Meaningful and Relevant Professional Development and Resources

Coherence of New Initiatives

Participants noted that we need to increase the coherence of new initiatives that originate from the department (among different divisions within the Public Schools Branch). Increased co-ordination would help principals understand the interconnectedness of initiatives and would assist teachers in getting more value from PD sessions, enabling them to better apply what they learned in the classroom. Currently, many of the initiatives are perceived as disconnected from each other, which can make implementing them overwhelming for principals and teachers. It is important that teachers see the PD as valuable for them and their school, and not see it as simply implementation of another department initiative that is disconnected to where the school is focussed.

Integrated PD

There is a need for the boards and department to better co-ordinate and integrate their PD offerings. Some teachers currently feel inundated by what they perceive as disconnected pieces from different PD sessions. PD should be fully integrated with school improvement plans and performance evaluations. In addition, it was suggested that teachers may choose not to participate in PD because they have difficulty seeing how it fits with other PD they have received in terms of making a difference in the classroom.

Tailored PD

Participants felt strongly that we need to continue offering quality PD that is supported by resources that are meaningful and relevant. We have to continue soliciting the right people with the appropriate expertise to deliver PD, and it should be site-based as much as possible. Summer institutes that are locally developed would be beneficial as well.

Many participants commented on the need to ensure that what is delivered in PD sessions is taken back to the classrooms and implemented. The provision of tools for the classroom is key to this process; one participant noted that she had been at a particularly useful PD session during which refurbished laptops were given to participants. It showed participants that their learning was valued by others and that the system is making an investment in them.

PD should be individualized based on data and school-identified needs. Capacity must be built at the site level. Several participants mentioned that there is a need to start collecting and using data from the classroom to identify areas for teacher PD. In addition, it was suggested that PD should not be redone without conducting an evaluation on its effect on student success and teacher learning.

It was noted that some jurisdictions use recertification as a method of enforcing PD. This is seen as a problematic process, as it sets up the individual against the system, rather than having them work with the administration to keep themselves current. It was suggested that rather than a punitive process, it might be helpful to encourage teachers to enrol in the course(s) that they feel would benefit them most, whether it be a university course or a workshop. Relevancy and support were noted as key.

Schedule

Including PD elements in the school schedule was identified as an important direction to support building capacity and learning communities at the school site. Providing time on a regular basis will promote the involvement of all teachers in the PD process. Some suggestions included

- start embedding PD into the day
- stop one-day events if they are not part of the process
- reduce the amount of time teachers are out of the classroom, and stop pulling out the "best" teachers on a frequent basis
- stop pulling out a large number of teachers for PD because there is a lack of substitutes in many areas

2. Principals as Educational Leaders

Principals were noted as key change agents in the development of a new PD model and the creation of a culture of learning at the school level. The involvement of principals themselves in PD is very important to effecting this change. It was noted that principals are educational leaders and may require more release time and funding to better support their teachers and their schools. In addition, one participant suggested that we should take a careful look at PD for principals, including instructional leadership. Principalship could also be an area for mentorship PD. It was noted that it might be useful to look into prerequisites for principals, such as graduate courses in literacy and math. One participant commented that principals have a hunger for PD, but that time requirements and quality are concerns.

Work with University Partners

It was noted that the leadership component must be examined in collaboration with our teacher education institutions. It would be helpful to get more input on the content of programming for principals.

Leadership Training

A suggestion was made to offer leadership training within boards. Some boards may be doing this now. The idea of recertification for principals was raised, but it was also noted that we need to be careful not to put up barriers. Particularly in rural areas, there is a challenge in recruiting leaders. The issue of how to engage principals in providing leadership for PD within the framework of the school day was also raised.

3. Provide Support

On a provincial level, several areas were singled out as warranting continued or strengthened support:

- school improvement planning (SIP) process
- building and maintaining on-site school support and leadership
- training mentors and consultants as lead teams (but then providing time to train staff on a continuous basis)
- board leaders/mentors providing provincial PD
- summer institutes
- support of the department as leads
- support of universities

In addition, it was suggested that the province start to support

- development of professional learning communities
- co-ordinating initiatives among its divisions and stop presenting them as discreet initiatives
- performance appraisals
- mentors in new areas (student services, principals)

On a board level, several areas were singled out as warranting continued or strengthened support

- developing at least one expert on staff as a "go-to" person/mentor
- PD for recognized teachers
- building and maintaining on-site school improvement support and leadership
- professional development for principals and vice-principals
- board leaders/mentors

A few comments reflected what boards should stop doing, including

- shutting down the system for board-wide PD days as it is inefficient and ineffective
- providing PD that will result in a large number of substitutes in a school at a time

In addition, it was suggested that boards start to support

- mentors in each school who are backfilled
- collaborative planning time for teachers
- creating opportunities for on-site planning time to build learning communities
- rotating teacher in-service in subjects
- scheduling implementation of initiatives—some early fall or some late spring
- a focussed plan for all divisions on PD implementation

4. Ideas and Options

Although many ideas and options were shared during the meeting, many suggested that we still require research on best practices (what is working in other jurisdictions similar to Nova Scotia) and research and input from our principals and teachers on their needs and preferences.

Marketing and Shared Responsibility

It is recognized that the system needs to make the commitment to change the culture of PD to one that values PD and learning, particularly at the school level. Participants agreed that PD needs to be marketed assertively to the boards, teachers, and parents as a valuable and worthwhile endeavour. The message that PD is a shared responsibility also needs to be stressed.

Time

Participants recognized that teachers and principals generally want PD, but in many cases are unable due to other draws on their time. It was recommended that efforts be made to look at options to find time to provide PD—both outside the school day/year and within.

Time-related ideas for PD:

- Have a longer day and/or year (find more time for PD; incorporate collaborative planning time).
- Delay the start on Wednesday mornings to provide PD for teachers.
- Consider full days of PD as opposed to half days because teachers and administrators are still required to deal with and are occupied by everyday routine distractions.
- Consider having a block of days for PD rather than single days spread throughout the year. This would bring staff together for an extended period of time and may facilitate better, more effective and efficient learning.
- Schedule PD during the summer. One participant noted that 90 percent of teachers are at their school preparing during the week before school starts. This could be an opportunity to provide PD during that time; however, we must be careful not to cut into planning time.
- Bank time in conjunction with a longer year.
- Create opportunities for on-site planning time to build learning communities.

Other brainstorming ideas:

- Explore online options for PD.
- Mentoring is extremely important for professional growth and requires release time.
- Hold one-day events or a summer institute to talk about implementing the new PD approach once we determine what that is and possibly have boards try something for the next school year, then evaluate and report on it next summer.
- Offer PD one to two weeks before the beginning of the school year to encourage teachers to be in the schools.
- Increase specialist time to provide planning time (bank time).
- Review availability of sufficient funding for PD.

Appendix B

The Classroom Sessions Report

1. Introduction

In early 2008, under the direction of the Educational Professional Development Committee (EPDC), the Nova Scotia Educational Leadership Consortium (NSELC) held a series of province-wide consultations. The Classroom Sessions were facilitated with the goal of probing the challenges in education today and discussing the possibilities of improving student achievement and enriching the classroom experience through a wide variety of professional learning initiatives.

Consultation sessions were held across Nova Scotia with representatives from each of the eight school boards between January 23 and February 7, 2008. The goal of these consultations was to give members of the educational community an opportunity to voice their concerns, share their best practices, and make suggestions for improvement. The key findings and feedback from the Classroom Sessions will inform and help to direct the Report and Recommendations of the EPDC.

2. Consultation Process

The Classroom Session consultations were held across Nova Scotia at a school in each of the eight regional school boards. It was agreed that the consultations take place in school classrooms so that the location would reflect the goal of the sessions—identifying the professional development supports that must exist to improve student learning and promote excellence within every classroom in Nova Scotia. Participants invited to each session included teachers, principals, parents, students, NSTU representatives, school board consultants, officials, and staff. The number of participants varied from region to region ranging from a low of 5 to a high of 14.

The individual classroom sessions were held at the Riverside Education Centre, Milford (Chignecto-Central Regional School Board); J. L. Ilsley High School, Halifax (Halifax Regional School Board); Yarmouth Consolidated Memorial High School, Yarmouth (Tri-County Regional School Board); Hebbville Academy, Bridgewater (South Shore Regional School Board); l'École acadienne de Truro,[1] Truro (Conseil scolaire acadien provincial); Malcolm Munroe Memorial Jr. High School, Sydney (Cape Breton-Victoria Regional School Board); Rev. H. J. MacDonald Elementary School, Heatherton (Strait Regional School Board); and Gaspereau Valley Elementary School, Wolfville (Annapolis Valley Regional School Board).

---

[1] *The CSAP consultation was unique. Members participated via video conference from three different locations: l'École acadienne de Truro, Truro; Centre scolaire Étoile de l'acadie, Sydney; and École Belleville, Tusket.*

Potential participants were identified through their respective school boards and sent an invitation package, which included a formal letter of invitation from the NSELC, a participant's guide, two Nova Scotia success stories, and background documentation (the McKinsey Report) on the role of professional development in achieving quality education. During the consultation process, participants were asked for their insights and opinions about the realities and challenges affecting today's education system, qualities of effective teaching, elements of successful professional development, and the role of professional learning communities (PLCs) as a means of delivering professional development. In addition, participants were asked to complete a written response form and include any additional comments or concerns that were not addressed during the face-to-face consultation. Finally, participants were asked to encourage their colleagues to submit a similar online response form, available on the Nova Scotia Educational Leadership Consortium (NSELC) website.

This report provides a summary of the information gathered during the Classroom Sessions consultations, through the submitted responses of participants, and through the online responses of the general public. The report also highlights key issues to be addressed in order to enhance the Nova Scotia public school system and to better realize student results through a focus on professional development and PLCs in the province's schools.

3. Key Findings

3.1 Students

"We are responsible for each child's learning."

Participants in all of the eight classroom sessions felt that students have changed over the past 20 years. It was commonly agreed that students have become more complex, diverse, and globally aware. As a result, the issues and experiences they bring to school are more demanding and multifaceted. Teachers now serve increasingly important roles in students' lives. Some participants felt that due to societal changes, teachers often now serve as disciplinarians, parental figures, and/or counsellors for their students.

Participants agreed that students possess an increasingly complex set of personal and learning needs, and as a result, teachers are required to differentiate instruction to meet the requirements of all learners in their classrooms. Inclusion has also placed heavy demands on teachers, as they are required to develop and implement individualized program plans for students with learning challenges.

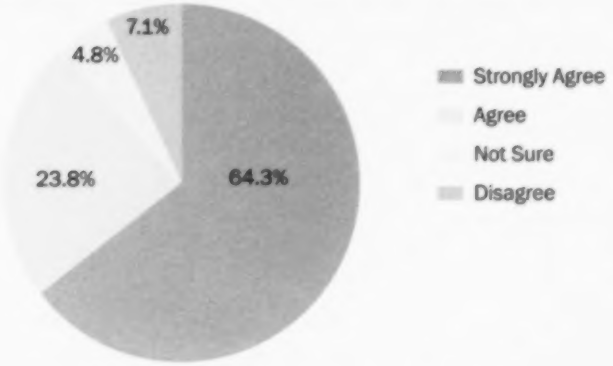
In addition to diverse individual needs, students have access to a great deal more information than they did in the past with technology providing instant access to information and the strong influence of popular culture. Many participants felt that teachers have the added responsibility of emphasizing character instruction and teaching personal skills—the immeasurable outcomes related to good teachers.

3.2 Teachers

"We teach a student not a subject."

Almost universally, participants in the Classroom Sessions identified the teacher as the most important factor in ensuring the quality of education in the classroom. Put simply, good teachers have a positive impact on their students, and bad teachers have a negative impact. The participants' views were confirmed by the written and online surveys. The second question on both the written and online surveys states: "Do you agree that teachers are the greatest factor to ensuring the quality of education in the classroom?" Almost two-thirds (64.3 percent) of the respondents indicated that they *strongly agree* with this statement. An additional 23.8 percent indicated that they *agree* with the statement. A small minority of 7.1 percent indicated that they *disagree*. However, they stated in their written responses that they feel teachers could be more effective if they had increased tri-level support and fewer initiatives imposed upon them.

Figure 1—Survey Question 2:
"Do you agree that teachers are the greatest factor to ensuring the quality of education in the classroom?"



The Classroom Session participants identified a number of issues affecting teachers and their ability to ensure quality education. Along with these issues, participants identified a number of factors that define great teachers, as well as the necessary supports that need to be in place to help improve the quality of instruction offered by all teachers.

3.2.1 Issues and Concerns

"Teachers are no more respected as professionals now than they were 25 years ago—we have to be seen as dealing with something that is not measurable"

Teachers often feel overburdened by the expectations that the students, school boards, public, and Department of Education place on them. Many participants described teachers as "wearing many hats." That is, in addition to teaching the curriculum, teachers are often expected to act as parental figures, counsellors, disciplinarians, friends, and/or nurses to their students. These demands place a great deal of stress on teachers. Many participants expressed concern that teachers are overwhelmed with the increasing number of initiatives and curriculum outcomes that are being introduced without the necessary supports. As one participant said, teachers feel "beaten down by expectations." Some participants expressed fear that these stresses would cause the best teachers to burn out and leave the profession early. Participants also recognized a lack of public support and respect for teachers, which also added stress to the profession.

3.2.2 What Makes an Effective Teacher?

"The lesson has to be an experience for the students in the class; it has to have meaning to them and be relevant in their lives."

The Classroom Sessions participants identified a number of elements that define effective teachers. According to the participants from the eight classroom sessions and the online survey respondents, effective teachers

- are dedicated and committed
- are passionate and enthusiastic
- are engaging
- relate learning to their students' experiences and needs
- have a love of learning and are experts in the subject areas they teach
- are self-reflective and seek out ways to improve in the areas where they struggle
- assume responsibility for their own growth and development
- practise differentiated instruction and are aware of its importance
- understand classroom management, not only in dealing with behavioural issues, but in building relationships with their students and earning their respect

3.2.3 Necessary Supports

"Good teaching made the difference—it always did and it always will."

Participants in the Classroom Sessions identified the following supports as essential elements required to ensure that every teacher becomes a great teacher

- **Meaningful on-site professional development:** Teachers should have time for in-school collaboration and professional development. This association was seen as particularly important for new teachers, who could benefit from the classroom management experiences of veteran educators. Participants noted that literacy specialists and math mentors had a positive effect on student outcomes through tailored, teacher-specific professional development. As one participant explained, "If you're a better literacy teacher, you're just a better teacher." Moreover, mentors, coaches, and specialists offer structured, effective professional development; thus, they ensure that collaborative time remains productive.
- **Differentiated professional development:** Just like their students, teachers are at different stages and different levels in their teaching effectiveness. As a result, professional learning activities and programs must be developed and organized to meet the individual needs of teachers.
- **Increased collaboration at all levels:** A number of participants felt that collaboration occurred more easily at the elementary level than at the junior high and high school levels, where teachers were more likely to maintain an isolationist attitude. Participants suggested using mentors and coaches to expose teachers to the benefits of collaboration. Participants were also eager to see increased collaboration, not only within the school, but between and among schools at both the regional and provincial level. It was felt that this collaboration would be particularly effective in smaller elementary and rural high schools where there might be only one teacher per grade or per subject. In addition to the increase in both horizontal and vertical collaboration, participants agreed that teachers need time to reflect on their professional training and experiment with new techniques and strategies within their classrooms.
- **Increased access to technology:** Educators require more access to technology and better instruction in its use. Technology was seen as a medium for collaboration that would be particularly effective in connecting geographically dispersed schools. Moreover, having an increased understanding of technology could greatly help with gathering and assessing data.

- **Multi-level support:** Teachers require support from principals, school staff, the school board, the Nova Scotia Teachers Union (NSTU), and the Department of Education. It is important that all levels re-examine their policies to set clear prioritized expectations for teachers:
  - Administrators must set clear high expectations for teachers and give guidance, feedback, and support to ensure that those expectations are reached.
  - Teachers need support through specific professional development to meet their individual needs, which may require focussed non-specific funding for school boards from the department: that is, funding specifically allocated for professional development that can be used at the individual school and school board's discretion.
  - Teachers need more support from board and department curriculum specialists.
  - Teachers need balanced accountability; they must reflect on their practices, and they should be monitored and supported by others.

- **More support from universities that offer education programs:** Pre-service education programs must re-examine their entrance criteria to include not only rigorous academic qualifications, but experience, interest, a love of teaching, and the ability to work with children. Furthermore, many participants expressed concern that entrance into a Bachelor of Education program predicated graduation; universities should not be afraid of setting high expectations for students and dismissing those who do not meet those standards.

  Participants also expressed the desire for increased communication between universities and school boards. First, it was felt that school boards could benefit from professional development opportunities that might be available to them from neighbouring universities. Second, participants would like to see universities partner with boards and schools to lead and support long-term action research. Finally, participants felt that clearer two-way communication would ensure that pre-service students were getting the education that would best prepare them for the classroom. For example, participants wanted to see increased practicum diversity to introduce new teachers to the importance of the diverse socio-economic conditions they may experience in the classroom.

3.3 Principals

"I signed up to teach kids, these other responsibilities take away from that."

The principal's role has changed. Participants in the Classroom Sessions agreed, as stated in the McKinsey Report, that 80 percent of the principal's time should be spent on educational leadership offering support and guidance to teachers. Unfortunately, participants felt that 80 percent of the principal's time was spent on managerial issues, while only 20 percent was devoted to educational and curriculum leadership.

The participants made a number of suggestions that they agreed would help reduce the daily managerial load placed on principals. In turn, these suggestions would allow principals to concentrate on developing and supporting their teaching staff.

- **Employ administrative assistants:** A number of boards participated in a pilot project that provided schools with administrative assistants to help free up the principal's time. These assistants were put in place in the pilot schools to help with managerial tasks such as staff memos, letters to parents, accounting, locating substitutes, and data collection. Every school and board that participated in the program found this support to be incredibly helpful, as it allowed principals to dedicate a greater percentage of their day to improving the quality of education in their schools.
- **Supporting principals with vice-principals:** Creating a partial or, ideally, full-time vice-principal would give principals a great deal of support. Participants felt that partial or full-time vice-principals should be provided regardless of school size.
- **Guidance and resource support:** Currently, guidance and resource personnel are not allocated to every school. Having on-site guidance and resource personnel would be a great support for principals and teachers alike. For example, school guidance counsellors could help alleviate behavioural issues, which would allow teachers to concentrate on their students and principals to concentrate on being instructional leaders. It was recommended that at least one resource and one guidance teacher be guaranteed for all schools, regardless of the school size. In addition, participants recommended that a 1:500 ratio between guidance personnel and students be put in place.

Participants noted that none of these initiatives on their own was enough, but together they helped release principals from many of their daily managerial tasks so they could provide more effective educational leadership.

Universally, there was concern among participants that teachers are losing interest in becoming school administrators due to demanding work conditions. Many participants felt that principals' salaries do not reflect the responsibilities inherent in the position.

3.4 The Classroom, Curriculum, and Inclusive Practices

"I go home every night feeling guilty because I couldn't do what I know I need to."

The classroom environment has changed. One participant noted that where once a quiet classroom was considered productive, now we value the buzz of student collaboration. In addition to students working together, many participants reflected positively on the increased professional collaboration between and among teachers. As one participant put it, "classroom doors are open, both literally and figuratively."

Two of the greatest factors that continue to influence and stimulate change in the classroom are the changing curriculum and the emphasis on inclusive practices. However, while these factors are generally viewed in a positive light, participants felt that teachers require more support dealing with these areas:

- **Curriculum:** The new curriculum provides far more guidance than the old curriculum, which offered very little support to teachers in the classroom. As a result, teaching practices have changed with increasing emphasis on student outcomes. As one participant said, "teachers used to teach from textbooks, now textbooks are simply a tool." Participants agreed that teachers need more time to adapt to the increased number of initiatives and outcomes. Moreover, they felt that more supports need to be put in place to help teachers maximize the effectiveness of the curriculum.
- **Inclusion:** New programs, such as the O_2 (Options and Opportunities) program, help to engage the interests and skills of all students. Many participants were glad to see the return of trades based education. However, without the proper supports, inclusion can place a great deal of stress on teachers. Working with math mentors and literacy specialists was seen as an immeasurable help for teachers struggling with differentiated instructional techniques and inclusive practices. Participants expressed concern that the focus on inclusion seems at odds with standardized provincial tests; most participants felt these two initiatives sent mixed messages to teachers and students alike.

3.5 Communication

"If people knew more about PLCs they would want to be involved."

There is a need for increased communication among all stakeholders in education. Participants agreed that parents and the general public were often very demanding of teachers and ready to hold them accountable for any and all aspects of their children's education. Of particular concern was the need to communicate more regularly and clearly with students, parents, and members of the community regarding professional development. When asked, both student and parent participants explained that there was very little communication from either schools

or boards regarding professional learning days. Parents generally viewed these days in a negative light; a number of participants relayed a commonly expressed opinion that these days were "just one more day off for teachers." However, as parents and student participants gained a better understanding of professional development during discussions in the Classroom Sessions, they became much more supportive. One student even noted that her peers would better understand the importance of professional learning if they were aware of the fact that their teachers were learning new and better classroom techniques.

Participants agreed that a tri-level communication plan was necessary. One participant noted that sending newsletters to parents with detailed accounts of the professional development sessions that teachers had attended during training days had garnered a great deal of support. However, many participants were concerned that the burden of communication should not be placed solely on teachers.

4. Feedback on Professional Development and Professional Learning Communities

The major focus of the Classroom Sessions was examining professional development opportunities as they exist in Nova Scotia schools in order to better understand the current best practices and to gain insight into improving all professional learning to enrich the classroom experience.

4.1 Current Effective Practices

"Our mantra should be: when teachers learn, students learn."

The most effective professional development practices are those conducted in schools that give teachers a sense of ownership and purpose. Participants were not supportive of professional development sessions that removed teachers from the classroom for extended periods of time. They felt that just as lessons must be meaningful to students, so too must professional training have meaning for teachers. The best way to ensure this point is to offer what one participant called "differentiated PD." That is, schools and boards should have a degree of freedom in choosing the professional training that is most effective to their unique situations. Furthermore, teachers felt that they should be able to see first-hand the benefits of their professional training. Participants felt that the current attention being given to data-driven decision making was an excellent way to provide evidence that professional development activities are having a positive impact on student achievement.

4.1.1 Accreditation

"PLCs are the context in which accreditation takes place—they inform each other."

Accreditation was universally understood to be a positive step in school improvement. Participants were particularly supportive of school staff collaborating to create and work toward a clear set of common goals. Because accreditation is seen as a school-based initiative, it gives teachers a sense of ownership and focus, empowering educators to work together in making decisions to improve the learning environment.

During the Classroom Sessions a number of common themes arose regarding accreditation:

- The accreditation process reaffirms what schools do well, but also opens up new levels of professional discussion.
- There is a need for more time to address accreditation goals and strategies.
- Accreditation is a data-driven process. However, while data identifies problems, more support is necessary to help fix them and meet the accreditation goals.
- Accreditation promotes both horizontal and vertical collaboration, which allows teachers to work to create common outcomes both in and across grade levels.
- Clearly identified SMART goals help teachers use their time with mentors and coaches more effectively.
- Effective strategies can be communicated from one school to another through mentors, coaches, and consultants. However, a provincial database of SMART goals and related strategies would be very helpful.
- Accreditation supports the PLC framework. Teachers working in PLCs provide leadership in meeting specific school goals.
- While accreditation is not seen as a top-down initiative, the instructions provided by the department help principals and accreditation co-chairs facilitate the implementation process.
- Accreditation gives teachers a voice and a sense of responsibility and ownership.
- Accreditation creates a team environment in schools and involves administrators, teachers, educational assistants, school staff, and community members.

4.1.2 On-Site Professional Development and Support

"We need more support for those people who are supporting us."

On-site supports such as math mentors, literacy specialists, and curriculum leaders are, it was universally agreed, valuable in improving student outcomes and supporting professional learning. Participants suggested that the number of curriculum consultants, mentors, coaches, and specialist be increased across all boards. Ideally, each school should have one full-time math mentor and one full-time literacy specialist. At the very least, it was felt that there should be both a literacy and a math specialist working full time to serve a family/group of schools. It was felt that if mentors and coaches had increased time at each school site, they would become part of the school community. In turn, this partnership would make teachers more comfortable approaching these specialists for help and support. Participants also agreed that more teachers should be making better use of the current number of mentors and coaches. However, in many boards these specialists are in high demand, limiting the number of hours they can spend at each school.

While mentors and coaches were universally recognized as valuable supports, the understanding of these two positions varied among boards. Therefore, there is a need for a clear, common definition outlining both the similarities and key differences between mentors and coaches.

As most teachers are uncomfortable leaving their classrooms or limiting instructional time, on-site initiatives are seen as a preferable way to deliver professional development and training and promote PLCs. The preferred type of on-site, collaborative training varies by board and includes the following:

- **Mentoring:** Mentoring requires a great deal of trust. Mentors must take the time to build a positive, non-judgmental, non-evaluative relationship with teachers so that they are able to work together in the classroom. The mentor model works well in helping to establish and maintain PLCs through activities such as collaborative lesson planning and co-teaching. Many boards found the mentor model particularly effective for helping new teachers adapt to the classroom. One of the major drawbacks of the mentoring system is that mentors must be approached by teachers. As a result, there is no guarantee that teachers who require assistance will be supported. Furthermore, teachers choose the topics they discuss with their mentors. Again this fact may limit a mentor's effectiveness.
- **Coaching:** Like mentors, coaches cannot be seen as evaluators. However, the coaching system is seen to be more proactive. Coaches approach teachers to address specific topics or areas that may need improvement. As a result, principals can offer their input and can ensure that teachers get the help they need. Often, once the teacher finds the coach to be an asset, a mentor-like relationship may form between the two.

- ***Jumelage*, modelling, and model classrooms:** Similar to the mentoring and coaching models, jumelage[2] and modelling allow teachers to job shadow other teachers. By visiting other schools, observing, and then discussing other practices, teachers are exposed to new ideas and techniques. Modelling can also be effective when teachers who have attended off-site professional development days are given the opportunity to share and discuss their experiences with their colleagues. Model classrooms are built by focussing on positive initiatives from a variety of teachers, creating a comfortable zone for discussion, and examining different teaching approaches.
- **Lead teams and cohorts:** Lead teams have been very successful. They offer a safe environment for collaboration and risk taking, as well as resource support and time for teachers to assimilate the information presented to them. Likewise, groups of teachers meeting in cohorts or even in simple book clubs provide time for focussed discussion of professional goals and strategies. It is important that both lead teams and cohorts remain focussed on school improvement. Some participants expressed concern that lead teams can become disconnected from the school.
- **Professional development programs:** Individual school boards found a number of programs beneficial in improving student outcomes. Some examples include FAB, BELL, ACT, and LIFT.

Participants agreed that school boards and principals need a "menu of choice" with regards to the professional learning opportunities available to them. Providing a variety of flexible, On-site professional development programs ensures that each board and school has access to the support they need.

4.1.3 Principals and Professional Learning

"Principals need time to collaborate too."

A few participants noted that principals are often overlooked in the areas of professional development. Like teachers, principals can benefit from collaborating with peers. One participant described a principal PLC network in which he was involved. It consisted of a small group of principals meeting informally to discuss issues and share solutions. They also visited each other's schools and job-shadowed. The participant was reluctant to leave his school for a day, but found collaboration time and first hand view of different approaches very helpful. His small PLC has also made plans to meet with other informal principal PLCs in different boards. The participant felt that he would be more comfortable leaving his school for PLC collaboration if he was not being pulled out for administrative reasons or for off-site professional development training at the board and/or provincial level. The other participants at the classroom consultations agreed that informal principal PLCs were an excellent idea and should be encouraged.

---

[2] *Literally twinning, jumelage is a mentoring program that involves having a less-experienced teacher job-shadow a teaching expert for a day. Substitutes are used to cover class time.*

4.2 Necessary Steps

"The professional development model has to change. Be radical not cautious!"

Feedback that was received both during and after the Classroom Sessions indicates that professional development in Nova Scotia is changing for the better. Professional development programs and professional learning opportunities facilitated through the use of PLCs are being met with increased enthusiasm as it becomes more and more obvious that they support teachers' efforts to improve student learning. However, feedback indicates that greater support is needed with regard to time, funding, implementation, and creating a common understanding of PLCs.

4.2.1 Culture Shift

"Support their evolution rather than mandate their existence."

There has been a continual evolution in teaching that has increased in momentum over the past decade with the publication of works such as the Learning for Life documents. The sheer amount of change in such a short time can be daunting for teachers. Therefore, it is important that changes to professional development, and especially the introduction of PLCs, be handled carefully so as to ensure buy-in from all stakeholders. As one participant explained, for PLCs to work all stakeholders must "support their evolution rather than mandate their existence."

- Professional development should move away from the old pull-out training model toward PLCs.
- PLCs must not be seen as another add-on or a directive imposed on teachers by school boards or the Department of Education.
- Teachers and principals must see the value of PLCs through quantifiable data and improvements in student outcomes.
- Teachers must take ownership of the initiative and work to develop it to meet the needs of their classrooms and schools.
- PLCs must follow flexible models that would allow each school to identify their particular needs through data assessment and tailor their professional training accordingly.
- The term "PLC" should be changed to support a common understanding of the initiative for all Nova Scotia schools.
- Tri-level support is necessary in establishing and maintaining flexible PLC models.

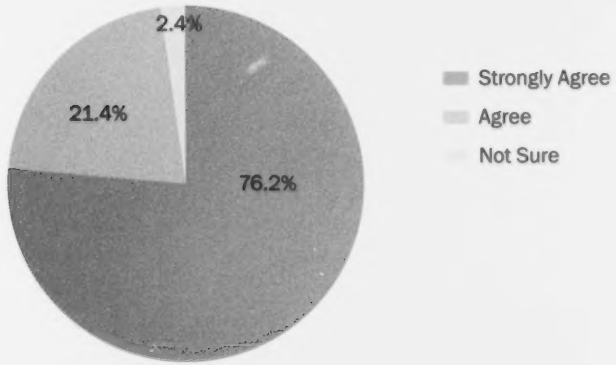
4.2.2 Time and Funding

"Where is the time to collaborate?"

It is important to note that all stakeholders are in agreement when it comes to changes regarding time and/or funding. Participants recognized that any proposed changes to the education system in Nova Scotia, with the goal of improving student outcomes, will require tri-level support.

The most important factor in ensuring the success of a new direction in professional learning is time. According to the online and written surveys, 76.2 percent of respondents strongly agree that providing time for teachers to collaborate will better enable them to meet the challenges of today's classrooms.

Figure 2—Survey Question 3:
"Do you believe that by providing the time for teachers to collaborate, they will be better able to meet the challenges of today's classroom setting?"



Participants felt that ways to overcome the difficulties in time and funding include the following:

- **Provide funding to increase the number of full-time equivalents (FTEs):** In order to provide teachers with more job-embedded professional learning opportunities, many participants suggested increasing the number of FTEs. An increase in FTEs would allow teachers teaching the same grades or common curricular areas the opportunity to meet and collaborate. Ideally, the increase in FTEs would allow high school teachers to shift from a 7:8 teaching schedule to a 6:8 schedule.

  A number of boards suggested creating a full-time floating substitute position in schools. The floating substitute would rotate among classes, creating additional time in the schedule for teacher collaboration. Participants felt strongly that any increase in the amount of collaborative time must not be implemented at the expense of teacher preparation time.

- **Offer targeted funding that is global in nature:** Participants from each of the Classroom Sessions universally agreed that the department needs to provide school boards with flexible funding specifically designated for professional development. This flexible funding would allow boards to support professional development programs and initiatives that are the most effective in their schools. Since schools have different needs, are at different stages of learning, and are at different places in the establishment of PLCs, offering the same professional training across the province

would not be effective. Likewise, the department needs to allow boards increased flexibility in how they use their professional development days. Enforcing a common calendar creates logistical problems at the school and board levels.

- **Increase funding for effective initiatives:** Many effective initiatives have been introduced by the Department of Education. Participants agreed that rather than introducing new initiatives, the department should increase the funding and support for its current effective programs. The department should also co-ordinate a logical, long-term plan for the initiatives that it plans to introduce. These steps would help prevent teachers, principals, and school board staff feeling overwhelmed by outcomes and initiatives.
- **Re-examine the timetable and the instruction day and/or year:** The instructional day and year should be re-examined with the goal of maintaining instructional time, yet increasing professional learning opportunities:
  - Add five paid days at the end of August to allow teachers the opportunity to plan and organize professional learning programs for the upcoming school year. Some participants felt splitting the extra days between August and January would allow teachers not only to plan professional development strategies, but also to assess those plans midway through the year. Participants agreed that the extra time would be especially helpful during the accreditation process.
  - While the number of professional development days varies by board, participants unanimously agreed that adding an extra professional development day to the annual schedule would be helpful.
  - Allow greater flexibility in the use of professional development days at both the board and school level.
  - Increase the length of the instructional day to allow a full or partial shut-down day each month. Participants recognize that there were inherent difficulties with this notion, but most agreed that banking time in this manner would give teachers the necessary time to collaborate.
  - Develop more effective timetabling to provide teachers more opportunities to "work smart." For example, creative timetables would provide teachers the opportunity to work collaboratively to create lesson plans.

5. School Board Specific Issues and Concerns

Sections 3 and 4 of this report address common issues and concerns raised by participants in the classroom consultations and written responses in each of the eight school boards. However, there were some matters that were emphasized by each board.

5.1 Chignecto-Central Regional School Board

The Chignecto-Central Regional School Board (CCRSB) has encountered problems in the past with banking time for professional development days. Changes to the instructional day were met with opposition from parents. Participants at the CCRSB classroom session felt that increased communication with parents could help prevent similar problems in the future. However, as a result of their situation, schools in the CCRSB now have difficulty working professional development days into their annual schedules.

5.2 Halifax Regional School Board

In the Halifax Regional School Board (HRSB) all teachers are required to meet with literacy specialists and math mentors. This has led to positive results with regard to student outcomes. However, the major issue for the HRSB is finding time for teachers to collaborate. Participants at the HRSB consultation were very concerned that the system was in danger of losing its best and brightest teachers because of teacher burnout. Schools require additional support in order to allow teachers the opportunities to work and learn together in order to overcome their sense of professional isolation.

5.3 Tri-County Regional School Board

Many of the schools in the Tri-County Regional School Board are located in rural, often isolated areas, presenting the board with a set of challenges. Small school sizes can be a major issue. Due to small student and staff populations, teachers must often teach outside of their areas of expertise. These teachers require extra professional training in order to be effective in the classroom. Similarly, many schools have only one teacher per grade level or per subject, which makes on-site collaboration difficult. Participants agreed that new initiatives are needed to support collaboration in rural schools. Most agreed that providing teachers with access to technology and ensuring that they have the proper training to use it effectively would greatly facilitate collaboration between teachers at different locations. Participants also noted that substitute teachers are often difficult to find, which greatly affects the ability of teachers to participate in off-site professional training. In addition, travel to conferences in Halifax or other population centres is both costly and time consuming.

5.4 South Shore Regional School Board

Participants in the South Shore Regional School Board (SSRSB) classroom session drew a distinction between mentors and coaches. Participants agreed that in their district, the move to provide coaches rather than mentors was proactive and thus more effective.

The SSRSB had been part of a pilot program designed to relieve part of the managerial burden from principals by assigning them administrative assistants. This program was universally recognized as having a positive effect in schools.

The SSRSB participants agreed that extending the instructional day to allow for a full or partial shut-down day during the month is a quick-fix solution. Instead, the SSRSB is currently developing a proposal to increase the number of FTEs at each school. The goal of the overall staffing increase will be to provide teachers with an additional 5.55 percent collaborative time.

5.5 Conseil scolaire acadien provincial

The Conseil scolaire acadien provincial (CSAP) is a unique board with unique issues and concerns. As a French first-language board, the CSAP faces challenges that may be specific to that board. Participants noted a severe shortage of teachers qualified to teach at French first-language schools, making it difficult to find and employ effective teachers. In addition to staffing problems, the CSAP faces difficulties with regard to its student population. Students in CSAP schools can also choose to attend schools in other regional school boards. As a result, CSAP schools are sometimes in direct competition for students with other boards.

Participants noted that the CSAP must purchase its professional training materials and all of its books in French, which represents a greater expense. They did not feel this additional expense was recognized in the funding formula. In addition, there is a lack of French language resources for professional development.

CSAP schools are also geographically dispersed across Nova Scotia. As a result, the CSAP faces all of the same problems as other largely rural districts, such as Tri-County, but with increased difficulty and cost in travel, and even less access to specialists and mentors. CSAP participants agreed that access to and training with cutting edge technology would help facilitate teacher collaboration.

5.6 Cape Breton-Victoria Regional School Board

Unlike the SSRSB, the Cape Breton-Victoria Regional School Board (CBVRSB) classroom session participants agreed that mentoring and modelling through programs like LIFT[3] provided the most effective on-site professional training for teachers. They also found that co-teaching in these situations—either by combining classes or having a substitute cover one class—worked particularly well as a means of professional development.

In their efforts to increase the level of communication, the CBVRSB invites parents to the Primary Parents Fair. During this event, parents have the opportunity to see what is happening in their children's classrooms. The Primary Parents Fair is seen as a positive experience for all stakeholders.

---

[3] *Literacy Initiative for Teachers (LIFT) is a program where teachers observe a Reading Recovery teacher in action and are then job-shadowed and mentored by the Reading Recovery teacher. Substitutes are used to cover class time.*

5.7 Strait Regional School Board

The SRSB consultation participants felt that a 20 percent increase in professional development time built into the schedule would be beneficial to teachers.

Although they enjoy a positive relationship with St. Francis Xavier University, participants wanted to see increased communication and collaboration between their board and the university, both in the areas of pre-service teacher education and in-service professional development. Participants felt increased partnering would be of mutual benefit to both organizations.

5.8 Annapolis Valley Regional School Board

Participants at the Annapolis Valley Regional School Board (AVRSB) classroom session felt that accountability is important, but that it can be a double-edged sword. Meaningful appraisals are important to allow teachers to know their strengths and work on improving their weaknesses through focussed professional development. However, it is important that teachers do not see appraisals as a threat of sanction, but rather a means of improving their effectiveness in the classroom.

As with the SSRSB, the AVRSB had been part of a pilot program designed to relieve part of the managerial burden from principals by assigning them administrative assistants. This program was universally recognized as having a positive effect in schools.

Participants in the AVRSB recognized some potential problems associated with PLCs. First, they were concerned that the term PLCs meant different things in different schools and school boards. The danger, they felt, was that some schools might believe that they are participating in PLC activities without ever fully establishing an effective, working professional learning community. One participant offered the example of a colleague who had been participating in a book group and believed that activity alone constituted a PLC. The AVRSB participants agreed that it would be beneficial to replace the term "PLC" with a new term that reflected a common understanding of professional learning in all Nova Scotia schools. Second, participants felt strongly that PLCs must be viewed as one of many potential professional learning initiatives available to schools. That is, PLCs should not be seen as the only initiative that teachers and schools need in order to improve their student outcomes.

References

References

Barber, M., and M. Mourshed. 2007. *How the World's Best-Performing School Systems Come Out on Top*. n.p.: McKinsey and Company. www.mckinsey.com/locations/ukireland/publications/pdf/Education report.pdf.

Bolam, R., A. McMahon, L. Stoll, S. Thomas, M. Wallace, with A. Greenwood, K. Hawkey, M. Ingram, A. Atkinson, and M. Smith. 2005. *Creating and Sustaining Effective Professional Learning Communities*. DfES Research Report RR637, University of Bristol. www.dfes.gov.uk/research/data/uploadfiles/RB637.pdf.

Borko, H. 2004. Professional development and teacher learning: Mapping the terrain. *Educational Researcher* 33 (8): 3–15.

Brown, J. L., and C. A. Moffett. 1999. *The Hero's Journey: How Educators Can Transform Schools and Improve Learning*. Alexandria, VA: Association for Supervision and Curriculum Development.

Bryk, A., E. Camburn, and Louis K. Seashore. 1999. Professional Learning Communities in Chicago Elementary Schools: Facilitating Factors and Organizational Consequences. *Education Administration Quarterly* 35: 751–781.

Bull, B., M. Buechler, L. Krehbiel, and S. Didley. 1994. *Professional development and teacher time: Principles, Guidelines, and Policy Options for Indiana*. Bloomington, IN: Indiana Education Policy Center. www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/14/06/a3.pdf.

Cordingly, P., M. Bell, and H. Mitchell. 2005. *The Impact of Networks on Pupils, Practitioners, Organizations, and the Communities They Serve*. Paper commissioned by the Network Learning Group, NCSL, UK. www.ncsl.org.uk/mediastore/image2/the-impact-of-networks-on-pupils-practitioners-organisations-and-the-communities-they-serve.pdf.

Corcoran, T. B. 1995. *Helping Teachers Teach Well: Transforming Professional Development*. New Brunswick, NJ: Consortium for Policy Research in Education (CPRE Policy Brief No. RB-16). www.ed.gov/pubs/CPRE/t61/index.html.

Darling-Hammond, L., and J. Bransford, eds. 2005. *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able To Do*. San Francisco, CA: Jossey-Bass.

Darling-Hammond, L., and G. Sykes, eds. 1999. *Teaching as the Learning Profession: Handbook of Policy and Practice*. San Francisco, CA: Jossey-Bass.

Dolan, W. Patrick. 1994. *Restructuring Our Schools: A Primer on Systemic Change*. Kansas City, MO: Systems and Organization.

Donaldson, Jr., Gordon A. 2006. *Cultivating Leadership in Schools: Connecting People, Purpose, and Practice*. 2nd ed. New York, NY: Teacher's College Press.

Dufour, R., and R. Eaker. 1998. *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement*. Alexandria, VA: Association for Supervision and Curriculum Development.

DuFour, R., R. Eaker, and R. DuFour, eds. 2002. *Getting Started: Reculturing Schools to Become Professional Learning Communities*. Bloomington, IN: National Educational Service.

DuFour, R., R. Eaker, and R. DuFour, eds. 2005. *On Common Ground: The Power of Professional Learning Communities*. Bloomington, IN: National Educational Service.

Easton, L. B. 2004. *Powerful Designs for Professional Learning*. Oxford, OH: National Staff Development Council.

Elmore, R. F. 2000. *Building a New Structure for School Leadership*. Washington, DC: The Albert Shanker Institute.

Fink, D. 2005. *Leadership for Mortals: Developing and Sustaining Leaders of Learning*. Thousand Oaks, CA: Corwin.

Flaherty, J. 2005. *Coaching: Evoking Excellence in Others*. 2nd ed. Boston, MA: Elsevier Butterworth-Heinemann.

Fullan, M. 1995. Creating Learner Centred Schools, *Theory into Practice*. Autumn Edition.

Fullan, M. 2004. *Leadership and Sustainability: System Thinkers in Action*. Thousand Oaks, CA: Corwin.

Fullan, M. 2007. *Leading in a Culture of Change*. Revised ed. San Francisco, CA: Jossey-Bass.

Fullan, M. 2007. *The New Meaning of Educational Change* (4th ed.), New York, NY: Teachers College Press.

Goodman, R.H., and W. G. Zimmerman. 2000. *Thinking Differently: Recommendations for 21st Century School Board/Superintendent Leadership, Governance, and Teamwork for High Student Achievement*. Arlington, VA: Educational Research Service. www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww%2Enesdec%2Eorg%2FThinking%5FDifferently%2Ehtm.

Guskey, T. 2000. *Evaluating Professional Development*. Thousand Oaks, CA: Corwin Press.

Guskey, T. 2003. What Makes Professional Development Effective? *Phi Delta Kappan* 84 (10): 748–750.

Hargreaves, A., and M. Fullan. 1998. *What's Worth Fighting For Out There?*. New York, NY: Teachers College Press.

Harkreader, S., and J. Weathersby. 1998. *Staff Development and Student Achievement: Making the Connection*. Atlanta, GA: Georgia State University, The Council for School Performance.

Hawley, W., and L. Valli. 1999. The Essentials of Effective Professional Development: A New Consensus. In *Teaching as the Learning Profession: Handbook of Policy and Practice*, edited by L. Darling-Hammond and G. Sykes, 127–150. San Francisco, CA: Jossey-Bass.

Hord, S. M., and P. Roy, project directors. 2003. *Moving NSDC's Staff Development Standards into Practice: Innovation Configurations Volume I*. Oxford, OH: National Staff Development Council.

Hord, S. M., and P. Roy, project directors. 2005. *Moving NSDC's Staff Development Standards into Practice: Innovation Configurations Volume II*. Oxford, OH: National Staff Development Council.

Hord, S. M., ed. 2004. *Learning Together, Leading Together: Changing Schools Through Professional Learning Communities*. New York, NY: Teachers College Press; Oxford, OH: National Staff Development Council.

Hord, S. M. 1997. *Professional Learning Communities: Communities of Continuous Inquiry and Improvement*. Austin, TX: Southwest Educational Development Laboratory (SEDL). www.sedl.org/pubs/change34/plc-cha34.pdf.

Hulley, W., and L. Dier. 2005. *Harbors of Hope: The Planning for School and Student Success Project*. Bloomfield, IN: National Education Service.

InPraxis Group Inc. 2006. *Summary of Professional Learning Communities: An Exploration*. [Edmonton, AB]: Alberta Education. http://education.alberta.ca/media/618576/prof_learng_communities_2006.pdf.

Jackson, D., and J. Temperly. 2006. From Professional Learning Communities to Networked Learning Communities. Paper presented at the International Congress for School Effectiveness and Improvement (ICSEI) conference. Fort Lauderdale, FL.

Joyce B., and B. Showers. 1982. *The Coaching of Teaching. Educational Leadership* 40 (1): 4–16.

Joyce, B., and B. Showers. 2002. *Student Achievement through Staff Development*. 3rd ed. Alexandria, VA: Association of Supervision and Curriculum Development.

Kennedy, M. 1998. *Form and Substance in Inservice Teacher Education*. Research Monograph Number 13. Madison, WI: National Institute for Science Education, University of Wisconsin-Madison.

Killion, J. 2008. *Assessing Impact: Evaluation Staff Development*. 2nd ed. Thousand Oaks, CA: Corwin Press.

Killion, J. 1999. *What Works in the Middle: Results-based Staff Development*. Oxford, OH: National Staff Development Council.

Knight, J. 2005. A Primer on Instructional Coaches. Kansas University Center for Research on Learning. *Principal Leadership* 5 (9): 16–21.

Knight, J. 2005. *A Primer on Instructional Coaches*. Kansas University Center for Research on Learning. www.instructionalcoach.org.

Kruse, S., K. Seashore, and A. S. Bryk. 1994. *Building Professional Community in Schools*. Madison, WI: Center on Organization and Restructuring of Schools, University of Wisconsin.

Lieberman, A. 2000. Networks as Learning Communities: Shaping the Future of Teacher Development. *Journal of Teacher Education*, 51 (3): 221–227.

Lieberman, A. and M. Grolnick. 1996. Networks and Reform in American Education. *Teachers College Record* 98 (1): 8–45.

Lieberman, A., and M. W. McLaughlin. 1992. Networks for Educational Change: Powerful and Problematic. *Phi Delta Kappan* 73 (9): 673–677.

Lieberman, A., and L. Miller. 1999. *Teachers Transforming Their World and Their Work*. New York, NY: Teachers College Press.

Lieberman, A., and D. Woods. 2003. *Inside the National Writing Project: Connecting Network Learning and Classroom Teaching*. New York, NY: Teachers College Press.

Little, J. W. 1982. Norms of Collegiality and Experimentation: Workplace Conditions of School Success. *American Educational Research Journal* 19 (3): 325–340.

Little, J. W. 1990. The Persistence of Privacy: Autonomy and Initiative in Teachers Professional Relations. *Teachers College Record* 91 (4): 509–536.

Little, J. W. 1993. Teachers' Professional Development in a Climate of Educational Reform. *Educational Evaluation and Policy Analysis* 15 (2): 129–151.

Loucks-Horsley, S. 2003. *Designing Professional Development for Teachers of Science and Mathematics*. 2nd ed. Thousand Oaks: Corwin Press.

MacIver, M. A., and E. Farley. 2003. *Bringing the District Back In: The Role of the Central Office in Improving Instruction and Student Achievement*. Baltimore, MD: John Hopkins University, Center for Social Organization of Schools. www.csos.jhu.edu/crespar/techReports/Report65.pdf.

Marzano, R. 2007. *The Art and Science of Teaching: A Comprehensive Framework for Effective Instruction*. Alexandria, VA: Association of Supervision and Curriculum Development.

Marzano, R. 2003. *What Works in Schools: Transforming Research into Action*. Alexandria, VA: Association of Supervision and Curriculum Development.

Marzano, R., D. Pickering, and J. Pollock. 2001. *Classroom Instruction that Works: Research-based Strategies for Increasing Student Achievement*. Alexandria, VA: Association of Supervision and Curriculum Development.

McLaughlin, M. W. 1993. What Matters Most in Teachers' Workplace Context?. In *Teachers' Work: Individuals, Colleagues and Contexts*, J. W. Little and M. McLaughlin, New York, Teachers' College Press.

McLaughlin, M. W., and J. Talbert. 2001. *Professional Communities and the Work of High School Teaching*. Chicago: University of Chicago Press.

Miller, K. 2003. School, Teacher, and Leadership Impacts on Student Achievement. Policy Brief. Denver: Mid-Continent Research for Education and Learning. www.mcrel.org/PDF/PolicyBriefs/5032PI_PBSchoolTeacherLeaderBrief.pdf.

Mitchell, C., and L. Sackney. 2000. *Profound Improvement: Building Capacity for a Learning Community*. Lisse: Swets and Leitlinger.

Murphy, C., and D. Lick. 1998. *Whole-Faculty Study Groups: A Powerful Way to Change Schools and Enhance Learning*. Thousand Oaks, CA: Corwin Press.

National Staff Development Council. 2002. *Standards for Professional Development*. Oxford, OH: National Staff Development Council.

Owings, W., and L. Kaplan. 2003. *Best Practices, Best Thinking, and Emerging Issues in School Leadership*. Thousand Oaks, CA: Corwin Press.

Schmoker, M. 2006. *Results Now: How We Can Achieve Unprecedented Improvements in Teaching and Learning*. Alexandria, VA: Association for Supervision and Curriculum Development.

Senge, P. 1990. *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York, NY: Doubleday.

Sparks, D. 2002. *Designing Powerful Professional Development for Teachers and Principals*. Oxford, OH: National Staff Development Council.

Sparks, D. 2007. *Leading for Results: Transforming Teaching, Learning, and Relationships in Schools*. 2nd ed. Thousand Oaks, CA: Corwin Press.

Sparks, D., and S. Hirsh. 1997. *A New Vision for Staff Development. Alexandria*. VA: Association for Supervision and Curriculum Development.

Stoll, L., R. Bolam, A. McMahon, S. Thomas, K. Hawkey, and A. Greenwood. n.d. *What is a Professional Learning Community: A Summary*. Adelaide, AU: Department of Education and Children's Services. www.decs.sa.gov.au/docs/documents/1/ProfessionalLeaningComm-1.pdf.

Stott, A., M. Jopling, and A. Kilcher. 2006. *How do School-to-School Networks Work?*. Nottingham, UK: National College for School Leadership. http://networkedlearning.ncsl.org.uk/collections/network-research-series/how-do-school-to-school-networks-work.pdf.

Weiss, I. R., and J.D. Pasley. 2006. Scaling Up Instructional Improvement through Teacher Professional Development: Insights from the Local University Systemic Change Initiative. *Consortium for Policy Research in Education* (CPRE), Policy Briefs. www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/29/df/bc.pdf.

Whitaker, T. 2003. *What Great Principals Do Differently: Fifteen Things That Matter Most*. Larchmont, NY: Eye on Education.

Wilson, S. M., and J. Berne. 1999. Teacher Learning and the Acquisition of Professional Knowledge: An Examination of Research on Contemporary Professional Development. *Review of Research in Education* 24: 173–209.

Wohlstetter, P., Malloy, C. L., Chau, D., and J. Polhemus. 2003. Improving Schools through Networks: A New Approach to Urban School Reform. *Educational Policy* 17 (4): 399–430.

Wright, S., S. P. Horn, and W. L. Sanders. 1997. Teachers and Classroom Context Efforts on Student Achievement: Implications for Teacher Evaluation. *Journal of Personnel Evaluation in Education* 11: 57–67.s.